# Gleanings in Bee Culture

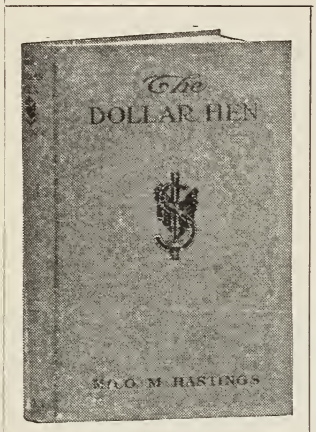
VOL. XXXVIII MAY 15, 1910 NO. 10

MILLER'S AUTOMATIC PATENT SWARM-CATCHER.
The queen was caught and caged and the bees immediately clustered as near as possible.—*See Editorials.*

PUBLISHED BY

THE A. I. ROOT COMPANY, MEDINA, OHIO, U. S. A.

# $400,000,000
## WORTH OF EGGS!




MR. POULTRYMAN.—Uncle Sam says the annual Egg crop is worth $400,000,000! and that the value of Poultry and Eggs produced last year exceeds $700,000,000!! Did you get your share of this money? If not, why not?

Milo M. Hastings, until recently the COMMERCIAL POULTRY EXPERT FOR THE UNITED STATES GOVERNMENT, has written a poultry Book: "The Dollar Hen." This book is a complete, thorough, and concise work of 222 pages, containing 106,000 words, also several charts, maps, etc. The purpose of this book is to tell the reader—

## How to MAKE Money Raising Poultry
### and NOT HOW TO LOSE IT

"The Dollar Hen" is not a boom poultry-book. It tells as much about what NOT TO DO as what TO DO. It thoroughly discusses every phase of the poultry business and tells how money can be make or may be lost. It gives a full account of all methods and systems of poultry-raising as taught by private individuals. Mr. Hastings does not advocate complicated and expensive methods; in fact, he found such to be universal money-losers.

### As a Government Expert

*As a Government Expert Mr. Hastings investigated all the various private systems, patent feeds, and so-called poultry secrets.* He visited the great successful poultry-farming districts of Petaluma, Little Compton, Watertown, the South Shore, and other regions—some wholly unknown to the poultry press—and gathered from all these sources the best ideas and most profitable practices. From his long practical experience on farm, poultry-plant, with State Experiment Station work, and Federal service, and with his unprecedented opportunity to get at the actual facts of the poultry industry, Mr. Hastings has laid out a typical money-making poultry-plant, called

### The Dollar-Hen Farm

and has described the various necessary adaptations for different localities and conditions.

### "The Dollar Hen" Tells About—

The Hen's Ancestors,
Chinese Poultry Culture,
Fertility of Eggs,
The Future of Incubation,
Buying Eggs by Weight,
How Eggs are Marketed,
The Wisdom of the Egyptians
Principles of Incubation,
Moisture and Evaporation,
How Eggs are Spoiled,
Breeding for Egg Production,
A Big Business; Growing Bigger, and over 100 other subjects.

### Expenses Cut in Half

Why spend several dollars per hen for housing when Mr. Hastings teaches you the construction of a system of housing that has been eminently successful and costs only thirty cents per hen!

Why pay high prices for theoretically "balanced rations" when a practical food-chemist who has personally investigated the work of a score of experiment stations has found the most profitable poultry rations to be as simple as the corn and alfalfa diet of a Kansas steer!

Why invest money in patent "systems," patent feeds plans, remedies, etc., of little or no value, or capable of only local application, when a Government Expert who has investigated the industry throughout the United States and Canada has proven the worth or worthlessness of these things, and tells you how to apply this knowledge to your particular circumstances and climate!

Why waste money and time experimenting with poultry when for a very small sum you can buy a guide to profitable poultry production! Why not make money at some one else's expense! "The Dollar Hen" TELLS YOU HOW in plain, simple language, and proves every statement made. Rembeber you are getting facts and figures that cost the United States Government thousands of dollars to secure.

## Poultry Press Endorses "The Dollar Hen."

There are no exaggerated get-rich-quick schemes discussed. It is plain common-sense from cover to cover, and is well worth reading by any one that wants to learn the facts about the poultry business.—*Inland Poultry Journal.*

It is the best book for the beginner that has lately appeared, because it deals in straight facts without theorizing. What it says has been worked out in the poultry-yard.—*Miller Purvis, Editor of Poultry.*

"The Dollar Hen" brings out some ideas that are novel and valuable to all poultrymen.—*American Poultry Advocate.*

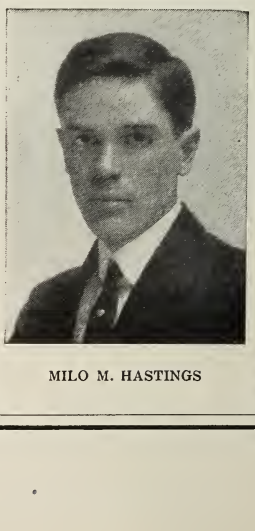
My opinion is, that "The Dollar Hen" is not only the best book on poultry we have at the present time, but it is worth pretty nearly as much as all the rest together. Perhaps this is extreme, but we have very few books that are strictly up to date, and still fewer that pitch right into the superstitions and humbugs now scattered all through our poultry books and journals.—*A. I. Root, Medina, Ohio.*

THE DOLLAR HEN is a real book, substantially bound—not a paper-bound pamphlet of "System," "Secrets," or "Methods," but a book worth several dollars of any poultryman's money. THE DOLLAR HEN has a vast fund of valuable information that required much time, expense, and effort. And think of it! You can have this authoritative and complete guide to profitable poultry, postpaid, for only $1.00.

In connection with a year's subscription to GLEANINGS IN BEE CULTURE, we make a special combination price of $1.50. A two-dollar value for $1.50. Order to-day.

# The A. I. Root Co., Medina, Ohio

**GLEANINGS IN BEE CULTURE one year and a copy of The Dollar Hen, $1.50. . . . .**



MILO M. HASTINGS

# Gleanings in Bee Culture

Published by The A. I. Root Co., Medina, Ohio.

H. H. Root, Assistant Editor
A. I. Root, Editor Home Department
E. R. Root, Editor
A. L. Boyden, Advertising Manager
J. T. Calvert, Business Manager

Entered at the Postoffice, Medina, Ohio, as Second-class Matter

VOL. XXXVIII MAY 15, 1910 NO. 10

## EDITORIAL

By E. R. ROOT

### MILLER'S PATENT AUTOMATIC SWARM-CATCHER.

On the front cover of this issue we take pleasure in presenting a swarm-catcher that is absolutely automatic. We do not know whether it "works for nothing and boards itself," but we are inclined to think not. The inventor tells of it in this wise:

The illustration shows an experience I had in hiving a swarm of bees. I had had but little experience with bees, but had learned that, if I caught the queen, I could get the bees where I wanted them. I walked up from quite a distance down in the field with this swarm, and my wife took my picture. I like to be on friendly terms with the bees, but this was a little greater display of intimacy than I was expecting.

Denver, Col. W. L. Miller.

### NEW JERSEY GETS A FOUL-BROOD BILL PASSED, AND THEN THE GOVERNOR VETOES IT.

The following letter, just received from the Secretary of the New Jersey Bee-keepers' Association, will explain:

The bee-keepers of New Jersey, through their State Association, succeeded in getting a foul-brood bill passed, with practically no opposition: but when it came before the Governor for his approval he vetoed it on April 12. We do not know his reasons, but understand he considered it too drastic.

Our bill was modeled after the one recommended by Dr. E. F. Phillips, and was considered a good one by all who saw it.

We think it was rather from a lack of understanding of the whole matter more than any thing else on the part of the Governor that he vetoed it. We spent all our efforts to get a bill on the assemblymen and senators, thinking the Governor would surely approve.

To say that we are highly disappointed is expressing it mildly. After working so hard to get a bill passed, and then have it stabbed by the Governor, was the least of our expectations. But then, there is no use in fretting. We shall simply have to stay sweet, and try again. I suppose we shall have to frame a bill to meet the Governor's objections, and try again next winter. This is our individual opinion, and will have to be approved by the association. In the mean time we should like to have more bee-keepers join the association. Dues are 50 cts. a year. We know some bee-keepers who have held aloof from the association, thinking we could never get a bill passed. The stronger our association, the stronger the show we can make next winter.

Pittstown, N. J. Albert G. Hann, Sec.

The New Jersey bee-keepers have been working long and hard to get a foul-brood bill passed. There was most urgent need of it, and it is unfortunate that the New Jersey bee-keepers did not see the very great importance of informing the Governor of its importance. Gov. Folk, of Missouri, vetoed a foul-brood bill after it had passed both houses, simply because he did not know any thing about the bee-keeping industry nor the dangers that were threatening it. These two cases ought to be a lesson to other States that are working strenuously to get foul-brood laws on their statute-books.

### "SELLING THE HONEY CROP TO THE BEST ADVANTAGE."

Under the above caption, Mr. Hutchinson, of the *Bee-keeper's Review*, in his issue for May, has quite an extended editorial. In the first two paragraphs he says:

"Did you ever stop to think that you spend all of your season producing your crop of honey, and then sell it in about fifteen minutes?" I came across the foregoing sentence in a circular just sent out by the energetic, enterprising secretary of our Michigan State Bee-keepers' Association. It is true that we bend every energy to the successful wintering of our bees; we make chaff hives, or protect the bees with some kind of packing, or we put them in the cellar and then watch the temperature as a mother watches her sleeping child; we feed the bees in the spring if they need it; we coax them into the supers by means of "bait" sections; we lift and sweat, and suffer stings; and, finally, crate up our beautiful product with loving care, and then, as Bro. Tyrrell says, some of us sell it in about fifteen minutes.

The indifference exhibited by some producers in disposing of their crop is certainly exasperating. We can not all peddle our honey; we can not all sell it to retailers; we can not all build up a mail-order trade. Some of us must sell to wholesale dealers, or consign to commisson men; but in any case there is no excuse for the lack of interest, the utter indifference, the "I'll-take-whatever-you'll-give-me" spirit.

Further on he says, "In other lines of business, production is looked upon as only half the problem." . . . "The selling end has been shamefully neglected." . . "It is quite likely that many men are now following the plan that is best for them; but it is equally evident that thousands of men are not—men who might materially increase the revenue from their crops by some change in their plan of selling." . . "Not every producer can become a successful retail salesman." . . . "It is safe to admit that men who are now retailing their honey might find it much more profitable to increase their production until it reached the carload stage, abandon the retail trade, and turn their whole attention to production." . . . "Selling should be only a part of a plan that is the most perfect for some particular man and his environments. What I am pleading for is the proper recognition of the importance of the selling factor."

It is probably true, as Mr. Hutchinson says, that bee-keepers have not been giving enough attention to the "selling factor."

We shall be glad to open our columns to a discussion of the same subject.

After all that is said and done, honey production is a business in itself. The art of selling at good prices is entirely another business. It is seldom that we find any one man sufficiently educated in the art of producing and selling both; and it therefore follows that the great majority of bee-keepers will have to depend on some one else to do their selling. While this is true, there are many bee-keepers who are doing a fine business during winter in selling their honey in small lots to the local retail trade.

One of the things we have been trying to hammer into the heads of bee-keepers is the fact that honey should be sold *early*. While it can be disposed of to advantage in August, September, October, and November, there is not much doing after the middle of December; and honey that has not already been sold during the holidays is apt to have a slow sale afterward at reduced prices. In view of the fact that white clover gives indications of furnishing a liberal yield this coming summer it would seem advisable, as Mr. Hutchinson says, to get the honey on the market as soon as possible. There are many bee-keepers who wait until it is "convenient" to take it off their hives. They then sell when *everybody else* is selling, and when prices have a tendency to drop. They thus get into the fiercest kind of competition. "It is the early bird that gets the worm." No honey sells like fresh *new* honey.

---

### THE OHIO LEGISLATURE PASSES AN EXCELLENT FOUL-BROOD LAW.

Soon after we had gone to press with the last form of our previous issue, word was received that our foul-brood bill had passed both houses; we stopped the press and squeezed in a one-line notice. From the earlier reports we were fearful that the bill would not even be reported out of committee; but, thanks to the energetic action of Senator Patterson, the father of the bill, and Representative Woods, who had charge of the bill in the house, the bill was not only pulled out of committee in both houses, but it was put on the calendar, and passed. The bill is now before Governor Harmon for his approval. We have written him a strong letter urging his support, and so also has the secretary of the Ohio State Board of Bee-keepers, Mr. Henry Reddert, of Cincinnati. We have every reason to believe that he will attach his signature, and the bill become a law. The bill was drafted originally by Dr. E. F. Phillips, of the Bureau of Entomology, Washington, D. C., and then it was modified by the attorney-general to suit local conditions.

Senator F. N. Patterson and Hon. Frank Woods, both leaders of their respective houses, deserve the special thanks of the bee-keepers of this State for the prompt and energetic way in which they pushed the bill during the last day or two the Legislature was in session. We were very fortunate in the selection of our men to handle the bill. Considering the dead lock between the two houses at the time, we were exceedingly fortunate.

In brief, the new law provides that the Ohio State Board of Agriculture shall establish a Division of Apiary Inspection in the Ohio Department of Agriculture, and shall also appoint a competent entomologist who shall be chief inspector of said division. In this case, the Board will undoubtedly appoint State Entomologist Shaw, who, of his own accord, when we were agitating the question of getting a better law, offered us every assistance in his power. It goes without saying, that Prof. Shaw, if appointed, will do his part.

Among other things, the law provides that the inspector or his assistants, when notified in writing, shall examine all reported apiaries where disease is supposed to reside. After the first inspection he shall make a second inspection ten days later. Under the law, no one will be allowed to sell or barter, without the consent of the inspector, any diseased bees or appliances. It is further provided that no person engaged in rearing queens for sale shall use honey for use in making bee candy for mailing-cages unless it has been boiled for at least thirty minutes; that all queen-rearing apiaries shall be inspected at least twice a year.

For this year, at least, the Entomologist will not have any special funds to pay salary and expenses of special bee-inspectors; but he has kindly consented to have his regular nursery inspectors take on the additional duty of inspecting bee-yards. Another year, when the Department of Agriculture makes up its new budget, funds will doubtless be provided to take care of an inspector or inspectors who can devote all their time to inspection work. For the present, at least, we must not make too heavy demands on the chief inspector. It was thought best to get the law passed now, in order that localities affected by the disease might have the police power of the State back of them. It is unnecessary to say that local bee-keepers will see to it that the nursery inspectors, when they do come around, will be supplied with all the technical information they may lack in properly carrying out the provisions of the law.

---

### TEN-FRAME HIVES VS. EIGHT-FRAME; FALL OR SPRING FEEDING.

The following letter, received from one of the veteran bee-keepers of New York, and a man who has been connected with the supply business for the last twenty-five years, is of such general interest that we are glad to place it before our readers.

*Mr. E. R. Root:*—I have just received GLEANINGS for April 15, and noticed, on p. 241, your editorial in regard to ten-frame hives. I wish to say that the editorial meets my views exactly. When I first began keeping bees I used the ten-frame hives and had good success right along. About the time Mr. Heddon got out his sectional hive I changed to the eight-frame regular Dovetailed hive, having about 130 colonies. My luck seemed to leave me: but I continued with the eight-frame for about ten years.

I then changed back to the ten-frame, and, presto! my luck returned. Since then I have had good success. My specialty was comb honey. A few bee-keepers ask my advice, and I always recommend the ten-frame, but tell them that sales are mostly for the eight-frame, and they can take their choice. I also note your footnote on p. 249 in regard to spring feeding. This I have advised for a long time, and in accordance with your idea. I sometimes feel that you and I would agree on the care of bees.

Syracuse, N. Y. F. A. SALISBURY.

It is our opinion that the great majority of the eight-frame hives now in use among the old-time bee-keepers continue to be used because of the fact that they can not afford to change over to the ten-frame size. This is only another way of saying that many of these men, at least, would change over to the ten-frame hives if they were to start over again.

We are coming more and more to the conviction that the ten-frame hive will hold its own anywhere at any time. In late spring an eight-frame hive will often be jammed full of brood. To put on an extra story to accommodate the queen gives too much room. Two extra frames, as can be given with the ten-frame hive very nicely, accommodate the average good queen. From extended travel and observation, covering a period of fifteen or twenty years, we have been slowly coming to the conviction that the eight-frame hive is just a little too small, and that the ten-frame is about right. If it is necessary to have a reduced body capacity, better by far make the reduction on *vertical* than *horizontal* lines.

It is a great nuisance to the bee-supply houses and bee-keepers in general to have two kinds—that is, two widths of hives, for the same kind and depth of frame. Every supply house must carry a full assortment of the two sizes. Somebody must pay for this duplication, confusion, and expense, and, naturally enough, it comes out of the bee-keeper. We hope the time may speedily come when there will be only one width of cover and bottom-board, one width of super and one width of brood-nest, especially since the varying capacities of brood-nests to suit individual and local needs can easily be taken care of by increasing or diminishing the depth. A ten-frame-width shallow or deep brood-nest will fit any cover or bottom-board or super, and this is a matter of supreme importance. One can work shallow brood-chambers, medium shallow, standard full-depth Jumbo, or extra-deep Langstroth hive-bodies and supers in the same yard without any inconvenience; but he can not work satisfactorily two widths of hives in the same yard.

---

## THE ENFORCEMENT OF THE NATIONAL PURE-FOOD LAW; HEADACHE CURES, AND SHORT WEIGHTS IN FOOD STUFFS.

THE food and drug department of the United States Department of Agriculture is evidently going after the adulterators of foods and drugs, especially those who have misbranded. As some of their decisions bear upon the honey business, directly or indirectly, it will be proper here to refer to a few of them. For instance, one company has plead guilty, and been fined for sending out maple-sugar syrup, as the syrup contained almost entirely cane syrup and only a very small amount of maple syrup. The bottles were labeled "Cane and Maple Sugar Syrup;" but the words "Cane and" were put in small letters, so as to be inconspicuous, As this is contrary to the provisions of the national pure-food law, the authorities decided that the packages were branded and labeled so as to deceive and mislead the purchaser thereof.

Another concern was fined for selling packages of preserves that were short in weight. The label stated, "This package contains one full pound." This statement was false and misleading, in that each of said packages contained less than one full pound; to wit, an average of 14.5 ounces.

The "O. K. Headache Cure," claiming to cure any kind of headache, and perfectly harmless, "was misbranded in that the containers failed to indicate to or advise the prospective purchaser or consumer of said preparation that it contained alcohol and acetanilide, the presence and quantity of which substances are required by law to be declared on the package containing the same, and which was further misbranded in the following particulars, that it was not a cure for headache, and it was not perfectly harmless, because acetanilide, a dangerous drug necessitating skill and caution in the administration thereof, was present in said preparation."

There is provision in the national pure-food law by which the use of false geographical names is prohibited. It seems there are concerns that were selling Rocky Ford muskmelons and Indian River oranges; but neither the canteloups nor the oranges came from the localities indicated. The law holds that these geographical names should be applied only to the product of the strict area of melons grown in the Rocky Ford district of Colorado and oranges in the Indian River district of Florida. In brief, Uncle Sam says, "All labels must make no misstatement, either as to weight or character of the substances used in the food or drugs. If any substance is dangerous to life or health, the exact quantity must be stated on the label."

By the way, why should any one buy patent-medicine headache cures? There are records of a number of deaths occurring because the cures contained some deadly drugs that stopped the heart action and caused death. Bee-keepers do not need to be cautioned against headache cures more than any one else; but they should thoroughly understand that, when a label specifies one pound or any definite quantity of honey, there should be exactly that amount. A can or bottle that weighs gross a pound, and contains net 14 ounces of honey, when labeled as containing a pound, is a violation of the national pure-food law.

# Stray Straws

By Dr. C. C. Miller, Marengo, Ill.

The Census man struck a rather bad year for bee-keepers, didn't he?

Nectar contains 93.76 per cent of water; and honey, 20.6 per cent, according to German official investigation.—*Lpzg. Bztg.*, 42.

Ludwig says, *Am. Bienenstand*, 73, that moldy combs in winter may be due to hives of fatty pine. That seems to favor Doolittle's idea that unpainted hives are better for wintering.

Baby nuclei swarm out, page 279, Dr. Kramer says, *Schweitz. Bztg.*, 178; take bottom off nucleus hive; set it over an empty one, and the baby will build and brood with no thought of swarming.

Wesley Foster, I wonder if your section-dampener, p. 293, is as good as a fine stream of *hot* water from a fountain syringe. It does fair work on a whole package of sections, and splendid work on half that depth.

"With an eight-frame Langstroth hive . . . . it is well to use the excluder as a precaution against brood in the sections," p. 300. In this locality no excluder is used between eight-frame hive and sections.

Some omit breakfast, some omit supper. I've tried both ways; don't know which is best, or whether it's better to eat three meals, and cut each meal in two. The thing is, don't eat too much, and chew, chew, chew.

The plan outlined by Louis Scholl, page 246, selecting his best queens for his queen-yard and breeding from the best, will in a few years give him bigger crops. And the man with only 20 colonies can do something in the same line.

D. M. Macdonald, why can't you stay in Scotland, where you belong, without stirring up trouble on this side, p. 296? I've troubles enough of my own with another descendant of Scotland who objects to my introducing fresh Italian blood to work out the black blood.

Been trying a pair of home-made gloves made of heavy woolen yarn. The bees fly at them furiously, and try to burrow in them. Knew that before—did you? Well, here's something perhaps you didn't know—at least I didn't—for all their bluster, never a bee really stings, never one! They pepper a wool hat with stings, why not the gloves?

*Later.*—Got stung three times in half a day on the identical spot inside of a finger. I think the glove was thinner there. But why don't they leave any stings on the back of the hands or fingers?

"Selling patent-right territory" is bunched among objectionable things formerly advertised, page 241. What's wrong about selling patent-right territory? [Nothing is inherently wrong with the *principle;* but years ago the *practice* was very much abused—so much so that it has practically gone out. But, say, doctor, why don't *you* answer this question? You lived in the days of patent-right selling, and are supposed to know more about it than the writer.—Ed.]

Period of bloom three or four weeks earlier than usual. Duchess apple 41 days earlier this year than last. But after a long spell of summer came snow and ice—thermometer 21°. Some trees were utterly denuded, same as in winter. Fruit is about all killed; but since thawing out, bees still work on apple-blossoms, which are black at heart. Bees stood it grandly; are now at least three weeks in advance of any previous year. April 29 honey shook as in the midst of a heavy clover flow.

Replying to my question, p. 244, you say, Mr. Editor, that foul-broody entrances and alighting-boards should be disinfected. Does that mean that the danger-line ends there, and that there's no need to disinfect further out? What about the millions of spores scattered all over the ground and on top of all the hives in the apiary? [Spores on the outside of the cover or on the ground would probably be killed outright by the action of the sun. Disinfection of the interior of the hive or entrance would, we think, be sufficient.—Ed.]

The Bedford anti-swarming device, page 299, ought to hinder swarming just as my bottom rack does, *provided* the entrance under the device is large enough. But placed in front of a hive as shown on page 295, I should expect it to increase swarming, just because it decreases ventilation. The Bedford device, p. 299, is O. K.; but instead of holes at the back end why not have it more open, same as front? The Weishaupt arrangement, p. 299, is only to keep out robbers and mice. But I never knew either robbers or mice to trouble a hive raised on blocks, and the arrangement shuts off half the ventilation. But don't forget, good friends all, that a ¼-inch opening at the upper back end of the hive is as good as adding an inch at the bottom.

That balling business, page 244. As I understand it, E. Franke watched many cases of queens returning from wedding-flights into one-frame fertilizing-hives, where he could see them through the glass sides, and in every case the queen was balled unless she returned without having mated. Did Mr. Pritchard *see* the queens after they entered, so as to be sure they were not balled? I've seen bees many a time chasing after a queen to pull away the filament, but I don't *know* that the queen had not been first balled for a time. [Mr. Pritchard has raised anywhere from 1000 to 3000 queens in a season. In the height of the queen-rearing work he is constantly opening baby nuclei. If there were any such balling as Mr. Franke refers to he would have seen it, we would think.—Ed.]

# Siftings

By J. E. CRANE, Middlebury, Vt.

Dr. Miller, page 4, refers to the Dadants feeding granulated honey. I will say that I have fed it with very satisfactory results in the spring by placing it on top of frames under a warm cushion.

I can not quite agree with Mr. Byer, page 780, Dec. 15, that honey is unnecessary in a syrup made of two parts of sugar to one of water, for I have seen quite too much that was granulated in the combs when fed without honey.

On page 6 Mr. Wesley Foster's remarks as to the value and advantages of careful grading are well taken. Although there may be local markets that do not require so careful grading, for our larger markets the more careful the grading the better.

Page 4 Dr. Miller says, "If fielders go straight to the supers it seems they might take their pollen there too instead of dumping it in the brood-chamber." Well, my bees often store pollen in the supers, and I believe their methods of storing fresh nectar are very variable.

Decidedly interesting is that account of putting up bees to ship by the pound, with illustrations, pages 50, 51, 52. I do not believe that half the praise has been given the swarming-box it deserves. I believe it should be given a much larger place in our practice than it has heretofore occupied.

If any one thinks that bee-keeping lacks excitement, or is monotonous, let him look at that picture on p. 74, Feb. 1, and read Mr. Holtermann's description of moving bees. I have always moved in cold weather when conditions are more favorable.

Mr. Boardman's method of preventing granulation seems a good-sized step in advance along these lines. He does not say, p. 770, Dec. 15, just how much sunshine is required, nor the temperature, nor how soon after the honey is extracted the treatment must be applied. My experience has not been satisfactory, and I await with a good deal of interest more complete instruction.

Mr. Foster has given us, p. 138, Mar. 1, the best reasons I have seen for using a double-tier shipping-case. The fact that the smaller size will not allow the thin covers to bend down is a decided advantage; also that they will sell for from 10 to 15 cents more per case. Queer; but here in the East the markets have seemed to prefer single-tier cases, and yet I supposed the Colorado honey was marketed in the East.

Dr. Miller, page 755, Dec. 15, says that we should have an entrance ⅜ inch deep and one inch wide for every comb covered by bees for an outdoor entrance. I rather think that depends upon circumstances. Such an entrance would be none too much, surely, with sealed covers; but with absorbent cushions above, ⅜×2 inches is enough for the strongest colonies.

Absorbing material or cushions are taken up, pages 786, Dec. 15, and 27, Jan. 1. A great deal I find said against the cushions because they absorb the moisture. It certainly seems better to have it in the top packing than on the combs of honey. As soon as warm weather comes they dry out; but one thing should be considered—it takes very little opening on top to let the moisture escape. Boards laid on loosely will answer every purpose.

Mr. Pouder's description, p. 18, Jan. 1, of liquefying granulated honey in hot-water tanks, makes one want to go a good way to shake hands with him. I am sure he could never have written such a description of the vexations of liquefying honey without the experience. I am heartily glad he has something better. We have no gas in this town, and there would seem to be objections to a gasoline-stove; and I would inquire if an oven could not be heated sufficiently with a coil of steam-pipe to melt granulated honey in five-gallon cans.

C. E. Millard, p. 44, Jan. 15, complains bitterly of the ravages of the wax-moth, and I was particularly interested in the editor's footnote in which he says, "Since the Italian bees have replaced the old-fashioned black bees, most of the trouble with moth-worms has disappeared." Would not this be equally applicable to foul brood, at least here in the East? A gentleman from the southwest of our State, at our annual meeting told me that he had had little or no trouble with this disease, as he kept Italian bees, while his neighbors who kept black bees lost considerably, and were greatly injured by it.

On p. 27, Jan. 1, I mentioned the distance bees fly for honey. Recently at our State convention Dr. J. M. Thomas, now president of Middlebury College, told how, more than twenty years ago, he kept bees on the west shore of Lake Champlain, about one-fourth mile from the lake, and lost many bees in crossing the lake, which was, at that point, some two miles wide, the bees crossing to visit the rich white-clover pastures on the Vermont side of the lake. He moved his yard of bees some three-fourths of a mile further from the lake, and his bees were not tempted to cross. In other words, his bees would go 2¼ miles without any intervening pasture, but would not go three miles.

# *Bee-keeping in the Southwest*

By Louis Scholl, New Braunfels, Texas

A WARNING TO SHIPPERS OF HONEY; A PLEA FOR BETTER SHIPPING-CASES AND CANS.

Last year the writer called the attention of bee-keepers, especially those of Texas, to the importance of better and stronger shipping-cases or jackets for shipping our honey in cans. Only slight attention, comparatively, was paid to this note of warning; and while a few bee-keepers took up the matter and used better cases, the majority contented themselves with the use of such as are generally put out. Most of these are such frail affairs that they do not carry the heavy cans of honey shipped in them, and reach their destination in the most dilapidated condition. The engraving on page 322 shows only a few such weak cases, taken from a shipment of more than a dozen, all of which were literally torn to pieces, not only exposing the cans to injury, but allowing them to be broken. One leaked very badly, and the results would have been worse had not the honey been mostly granulated, preventing a greater leakage.

While the individual bee-keeper does not have very much loss during a season, which accounts for the slight effort made toward a reformation in better honey-shipping packages, the matter as a whole *is a very serious* one, as we must consider the many thousands of individuals with the thousands of shipments, *many of which are subject to some loss* in one way or another. It is impossible to comprehend the extent of these damages to honey shipments without studying the facts in the case. Although I have had an occasional shipment damaged to some extent, in spite of the extra care taken in preparation, it had never occurred to me that more than twice the number of shipments made by us were damaged more or less. This was due to the reason that many consignees do not report back such damages, but put in a claim for recovery at their end of the line. This was at once apparent to me when I saw a list of shipments for which such claims had been put in; for out of the number on the list half a dozen shipments were our own, and of which we had never heard any complaint for damages.

To show the importance of this whole matter I will submit here a copy of a letter received some time ago from an official of *only one* railroad calling my attention to this matter. Heretofore I had not known the seriousness attached to this matter. The letter will explain the situation:

HANDLING SHIPMENTS OF HONEY.

*Mr. Scholl:*—I submit herewith a file of correspondence which I am assured is of vital interest to the bee-keepers, or at least to the shippers of honey. The losses of honey in shipment are so great that it not only costs the railroads a great deal of money each year, but in the end works to the detriment of the man who produces it.

I do not know just how the losses are going to be avoided; but I think that some improvement in the package can be accomplished; and to make this improvement the parties producing the honey must know the weakness of the package used.

I am submitting this correspondence so that you can see the condition of quite a few shipments when they are only half way to their destination. The loss in the rest of the journey can not be expected to be any less. Doubtless a great many shipments are delivered to the consignee with only slight loss, for whice no claim is presented, and the retailer stands the loss out of his profits, and naturally the reduction in the profits to the retailer turns him against the commodity on which the profits are unsatisfactory.

I do not know that you can do any thing to improve the situation. If you can not, no harm can come from calling your attention to the losses now sustained; but I hope you will be able to accomplish some improvement. After the papers have served your purpose I shall be glad to have you return them to me with such comments as you may have to offer. Yours truly,

The papers referred to are copies of reports of honey-shipment damages, and claims covering a period of only 27 days, between August 14 and September 10; during which time there were twelve in all. A copy of each of these damaged-honey shipments was appended to the above letter. Each one showed exactly the condition of the shipment upon arrival, extent of the damage, etc. Weak cases, not strong enough to hold as heavy contents as cans of honey; leaks on account of improper soldering; tops worked loose, and contents or part of contents leaked out, etc., were the checks made on these reports.

If we stop to think for just a moment, the short time in which these reports were made, and by only a single railroad, and that after the main shipping season, it must be admitted that the situation is a serious one indeed.

It must also be borne in mind, in connection with the above shipments, that these checks were made when the shipments were only half way to their destination. The shipments reported in the above were from different parts of the State, and from nearly as many shippers, through Fort Worth, Texas, where the checks were made. In what condition these shipments reached the consignees it is hard to say.

Now it is up to the bee-keepers. What are *you* going to do about it? I have called attention to this before, and it is my hope it will not be in vain this time.

New Braunfels, Texas.

[Mr. Scholl is right. It is strange that a bee-keeper will produce a fine article of honey, and then put it up in a cheap or second-hand package. Cans that have been used once are weakened or rusted. The user of them saves a few cents on the package, and loses dollars where he saves cents. The honey leaks, and trouble occurs between the railroads, the honey-producer, and the purchasers of the honey. No wonder he fails to make a satisfactory settlement with either. Honey, if it is worth any thing, should always be put in *first-class new packages.*—Ed.]

## *Conversations with Doolittle*

At Borodino

EARLY WORK IN THE SUPERS.

"How can I get my bees to enter the supers early in the season? I know that bees will begin work sooner on empty combs than when they are obliged to build their comb; but I am told that comb foundation will take the place of drawn combs."

"It will when nectar is coming in from the fields fast enough so that the bees begin to secrete some wax of their own; but when the honey-flow begins very gradually, and continues slow, we very often find that colonies provided with combs will make quite a show in the surplus apartment before those with only foundation to draw out, or those which are obliged to build their combs, make any start at all."

"But is it not just as well to leave the supers off during such slow work, allowing this little to be put in the hive for food for the larval bees?"

"No, not by any means. Such a course encourages swarming, which is a detriment in our modern bee-keeping. It is of great importance that the bees begin to put honey in the surplus apartment at the very first of the honey season. They work much better afterward when their first honey goes above, and they are not nearly so likely to fill the brood-combs with honey, and thus curtail the brood through lack of room given the queen in which to lay. Here is one of the great problems in apiculture; for *with the crowding of the queen comes a desire to swarm, which swarming fever is against a good yield of honey, even if the brood was not so curtailed as to injure materially the prosperity of the colony through the whole season, which is generally the case.* By placing a hive of empty combs above each colony as soon as it becomes strong enough to receive them, work will be begun there long before any colony thinks of entering the sections. Then as soon as the bees are well at work in these combs they are taken away from them, and sections put on, in which the bees go to work readily, especially if these first supers of sections contain a few baits. The bee-keepers of nearly a quarter of a century ago found out that, if a hive of drawn brood-combs was placed on a strong colony quite early, the bees would take advantage of them and store honey before they would go into supers with baits. Then after these combs were taken off the bees would at once go into the sections, store first in the baits, then draw out the foundation in the sections next to these, and soon work would be going on throughout every section in the super; swarming would be retarded, and a good yield of section honey assured. The combs in which the bees were at work were put on other colonies not strong enough to occupy upper stories when this work first began; and when all had been brought up to the occupying of sections except the very weakest, these combs, now pretty well filled with honey, were piled from two to four stories high on these weak colonies, and left for extracted-honey production."

"Was the plan a success?"

"It was very much in advance of the former way of working where sections were only starters or only foundation were put on the colonies after they got nearly or quite strong enough to swarm; but it lacked some of the better elements of our present-day bee-keeping, the turning of all the honey stored by the bees during any and all years, which was not needed by the bees themselves, into the sections, and that without the necessity of having *any* swarms. A plan for doing this is given in 'A Year's Work in an Out-apiary.' As soon as several of your colonies are strong enough so that a hive containing the full number of worker combs can be put over them without injuring their prosperity at brood-rearing, take off the winter covering from them and first place over the brood-chamber a queen-excluder; on this the hive of combs, and put the cover over the whole. The bees will now go to work in these combs; but instead of taking them off and putting sections in their place, as the earlier bee-keepers did, leave them till the first honey harvest opens, or till white clover is opened enough so the bees have commenced to work on it quite freely. As a rule, no preparations for swarming will have commenced so far, which is better than waiting later. Now set the upper hive down in place of the lower hive and put a super of sections containing baits on top, and on this super place another filled with sections having foundation in them. Next, shake and brush all the bees off their combs and out of the hive, which, up to this time, has been their brood-chamber, right in front of the hive you have just put the sections on, into which they will run as fast as you shake them off their frames of brood. You now have all the bees which were in both hives in what was the upper story a few moments ago; and as the bees have been used to working and carrying their honey into the hive above, so they will continue, going immediately into the sections; and as the queen lays, the honey stored in these combs will go into the sections, together with that coming in from the fields, while the colony finding itself without brood will go to work the same as a newly hived natural swarm, so that all swarming is unthought of, and a large yield of section honey results. Put the queen-excluder you now have out of use over some weak colony, and on this put this hive of beeless brood. And as the season's work progresses put on more and more. I often have hives so used till there are five hives like this all in one pile. And these are the combs which are used to go on top again the next year, the honey which will be stored in them being of advantage the next season."

## General Correspondence

### THE ESTABLISHMENT AND MAINTENANCE OF A BROOD-CHAMBER.

#### Eight vs. Twelve Frame Brood-chambers.

BY R. F. HOLTERMANN.

I have used the small and the large brood-chamber, and I should, therefore, be able to speak from an unprejudiced standpoint. This great and important question in bee-keeping in the attitude of bee-keepers toward it reminds me of the "chamber of torture" of ancient times, with the exception that, in the former, there was no way of escape; in the latter, there is left an open way of escape, and they who remain in it do so of their own will.

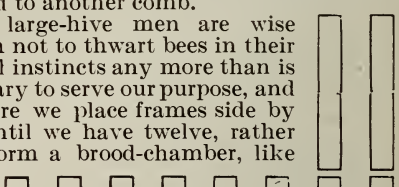
In my estimation the small-brood-chamber men are in the chamber of torture, the walls of which are gradually but surely closing in. These walls are made up of public opinion, and they are strengthened and reinforced day by day by recruits which come by the way of escape from the chamber itself as it is gradually crushing those who still maintain the ground of adequacy of an eight-frame Langstroth brood-chamber.

Say what we will as year after year goes by, the question of the size of brood-chamber becomes less and less *a question*. Apicultural writings, the result of debate at conventions, votes taken at conventions, an examination of the apiaries and methods of progressive bee-keepers, and the trend of orders from supply-dealers, all prove that the sweep with accelerated force is toward the larger hive, and those who advocate them can well in patience await results. If one will look over the writings upon this question in recent times, in my opinion he will find that the large-hive men have appealed to reason, while in some instances the other side has made statements in which ridicule has had a prominent part. For instance, J. E. Hand, GLEANINGS, p. 695, last year's volume, calls the twelve-frame-hive men "honey-slingers." Well, I have always tried to be a man who thought in this world's matters for himself and did not shrink from standing alone at the expense of ridicule. They laugh best who laugh last, and I have already enjoyed many a broad smile in that way.

As I stated at the recent Chicago convention of the National Association, so let me say now, when we study apicultural catalogs and literature, the number of combs in the bottom story makes up the size of the hive, and the number of combs of brood makes the size of the brood-chamber. The English language allows no other interpretation. If the number of combs of brood in the hive really makes the size of the brood-chamber, the difference between a twelve-frame or larger bottom story and the eight-frame bottom story on the tiering-up system can best be illustrated by the following: In times of intense heat, especially in eastern countries, one man has standing over him a hireling who laboriously, and by might of arm and expense, sways back and forth a fan to cool his heated brow, while his neighbor can turn on, by means of a button, the electric current which regularly, steadily, and at less cost, runs a fan until his good pleasure wills it otherwise. In the manipulation of the small bottom story and the taking of brood to the super we have a far more laborious and expensive process, to say nothing of more radical departures from normal lines. To place brood in an upper story, be it shallow or deep, entails greater expansion and inconvenience to the bees in feeding the larvæ and maintaining the heat thereof than that obtained by the adding of combs to the lower story. Then, too, it is more normal, and less of a break to the walk and ways of a queen, to pass from the 8th to 9th and 9th to 10th comb, and so on, than for the queen to leave, as it were, *terra firma* and pass up to the unexplored regions above. The very fact that bee-keepers are found who argue that the queen rarely goes out of the chamber she is in, and therefore queen-excluders need not be used, is an argument that it is more natural for her to move *sidewise* from comb to comb rather than pass from one chamber to another.

No matter what the assertions of all the bee-keepers who ever wrote may be, I *know* that which I have seen again and again, and that which others have admitted to me, that a queen, when she passes from one chamber to another, does not return as readily to the first as she would pass from one comb to another in one brood-chamber. Her inclination during the honey-flow is to deposit the eggs in that position where the brood will be as close as possible to the honey above; and the result is that she loses valuable time while being forced out of regular paths. Sidewise she readily passes from comb to comb; but up or down she follows the comb; and when she comes to the end of that comb, either up or down, her journey ceases, and she is not so ready to pass a piece of wood, an empty space, and another piece of wood to another comb.

The large-hive men are wise enough not to thwart bees in their natural instincts any more than is necessary to serve our purpose, and therefore we place frames side by side until we have twelve, rather than form a brood-chamber, like



the diagram, or double its capacity at one jump by clapping one shallow chamber on top of another.

*To be continued.*

[When Mr. Holtermann prepared this article he had not seen the editorial on p. 241 of April 15th issue showing the undoubted tendency of bee-keepers toward the ten-frame rather than eight-frame hive; neither had we seen his article.

While a twelve-frame-hive capacity may be all right, it does not fit standard covers, bottom-boards, comb-honey supers, nor extracting-supers already on the market. Strong arguments can be built up in favor of the same capacity of hive with ten frames, two inches deeper than the regular standard Langstroth, sometimes called the Jumbo. As the Dadants have pointed out, these large frames of Quinby dimensions are splendid for the rearing of brood. In our judgment it is far more important to have a hive that will fit standard supers, covers, and bottom-boards, than one that will fit some standard frame. One can adopt the Jumbo hive and still keep on using the standard Langstroth ten-frame hives and supers. He can use Langstroth frames in Jumbo hive-bodies, but, of course, he could not tier up very well using such frames, nor would it be necessary for him to do so. If a big hive is a honey and a money getter, if it is a non-swarmer, or practically so when operated for extracted honey, then all the arguments that our correspondent has made in favor of the twelve-frame Langstroth will apply with equal force, and more, to the Jumbo, which is, to all intents and purposes, the modern Quinby frame. The Jumbo frame is nothing more nor less than the Quinby having Langstroth length of top-bar and bottom-bar, but Quinby end-bars. In favor of the Jumbo we might say further that the Quinby Jumbo hive, having larger comb capacity per frame, requires less frame-handling. We are not quite prepared to admit that a queen will not go readily up into a second story of a sectional brood-chamber. If a colony is strong enough, if the queen is cramped for laying room in the lower section of a sectional hive, she will have no hesitancy, according to our experience, in going into the next story.

Taking it all in all, one should study his locality very carefully before deciding on a larger brood-nest than a ten-frame standard Langstroth. If extracted honey is the object we fail to see that enough would be gained to offset all the inconvenience of being out of tune with the rest of the bee-keeping world, to say nothing of the added expense of extra-wide supers, covers, and bottoms. If that capacity is better, adopt the Jumbo size of hive that will fit standard Langstroth ten-frame supers, covers, bottoms, honey-boards, hive-stands, winter-cases, and drone-traps.

The Jumbo is a standard hive, obtainable, we believe, from most dealers; while the twelve-frame Langstroth is sold nowhere, and would have to be treated as an odd-sized hive. This would necessitate in the height of the season delay, and an added cost because it is odd-sized. One should codsider the matter in all its bearings. See editorial on page 307 this issue.—ED.]

## DIRECT INTRODUCTION BY THE FASTING METHOD.

### Laying Queens or Virgins Allowed to Run Directly into the Hive.

BY J. M. BUCHANAN.

As the time approaches for requeening, the bee-keeper looks about for the best method of introduction. It is commonly conceded that the plans in general use are not satisfactory. Dr. Miller asks for a safe method, and is told that there is no absolutely sure plan. As there is nothing about the business of bee-keeping that is absolutely sure, that is perhaps true. During the past winter several new methods, or variations of old methods, have been exploited in the bee-journals, all of which were more or less fussy, and none of which gave promise of much improvement over the plans in general use. For several years I have been using a plan which is at once easy, quick, and sure. As I have tested it thoroughly I can recommend it to the bee-keeping public as something of real merit. Mr. N. O. Walker, President of the Tennessee Bee-keepers' Association, and a bee-keeper of forty years' experience, says of it, "This plan is far ahead of any other I have ever used."

Now for actual results: Out of 250 queens introduced by this method during the past three years I have lost only three, and those were given to laying-worker colonies; while during the same time, and under practically the same conditions, I have had about twenty per cent of failures by the ordinary cage-and-candy plan.

Here is the direct method, as practiced in my own apiary: About the middle of the day the old queen is removed; or if the colony has been queenless for more than twelve hours the combs are closely examined, and all queen-cells cut out. This is important. Now get a piece of wire cloth about three inches square. Roll this into the form of a cylinder ¾ inch in diameter. Tie a string around it, and insert a cork in each end. This is our "introducing cage." Just before sundown place the new queen, alone, and without food, in the introducing-cage, and place this out of the reach of any bees, and let it remain thus for three-quarters of an hour. Now the hive-cover is partly removed so as to expose one or two frames, and a very little smoke blown in to drive back the bees. Take out one of the corks of the cage, and let the queen run down between the frames. Blow in another whiff of smoke and close up the hive, and the operation is done.

It seems that the scent of the queen has less to do with her acceptance by the colony than her behavior on being released; if she is frightened, or acts in a haughty or insolent manner, the bees recognize her as a stranger, and promptly sting or worry her to death. If, however, she is lonesome and hungry, as is the case when introduced by this method, instead of running as if fright-

ened, or passing by with an arrogant air, when she meets a bee she humbly begs for food. This is always given, and so all is serene. It is, perhaps, best, though not imperative, for the colony to remain without a queen for half a day, or until they realize their queenless condition. However, I have on several occasions removed the old queen and put in the new one at the same operation, and the bees did not seem to know any difference. Either laying queens or virgins can be successfully introduced by this method.

Not the least advantage of this plan is the small loss of time in egg-laying, as compared with some of the older methods, and this is an important consideration where the queen is introduced before or during the honey-flow.

Franklin, Tenn., April 25.

[This is almost identically the same plan of introducing that is known as the "fasting" method, first fully worked out and placed before the public by Mr. Samuel Simmins in his book, "A Modern Bee Farm," in 1887. It has been continued in all the subsequent editions of the same work. We haven't a doubt that so far as Mr. Buchanan is concerned that the plan was entirely original. While the Simmins plan is not exactly the same, it is so near like it that it may be considered as one and the same. For the purpose of comparison we reproduce the Simmins plan here:

SIMMINS' "FASTING METHOD."

long since practiced by myself, and first mentioned in my pamphlet upon Direct Introduction, I have since improved by inserting the queen at night. The three things of importance to be observed are as follows: 1. Keep the queen quite alone for not less than thirty minutes; 2. she is to be without food meanwhile; 3, and to be allowed to run down from the top of the frames after darkness has set in, by lamplight. It is also important that the same receptacle be not used twice over for holding the queen during the thirty minutes' probation without first being scalded or otherwise cleansed. Of course a metal cage is easily made clean, though there is no objection to the cheap "safety" matchboxes so commonly in use, as there is nothing obnoxious about this kind. My own practice is to carry the queens in the vest pockets, in small tubular cages made of fine perforated zinc or tin, one end permanently closed, while the other end is pressed into a piece of foundation after the queen is in. When ready, remove the foundation and let her run into the hive.

It will be noticed that Mr. Simmins says the queen must be kept alone for *not less* than thirty minutes, while Mr. Buchanan specifies forty-five. And, again, Mr. Simmins directs that the queen be run into the hive after dark, by lamplight, while our correspondent says it should be done just before sundown. We will have more to say about night introduction later. But Mr. Simmins was not the originator of this idea of fasting the queen before introduction. We find references to it in Langstroth's old work, "The Hive and the Honey-bee," and even in earlier writings.

This fasting method of introduction has been discussed in this journal at different times for years back. For example, there is quite a discussion of it on pages 123 to 126 of GLEANINGS for February 1st, 1905. A further article appears on page 598 of the same volume. But because the plan is old, that does not necessarily signify it is not good. We have used it off and on to a considerable extent. In fact, our Mr. Bain, at the home yard, says he always uses it when taking a laying queen out of a nucleus and introducing her to a full colony in *the same yard.* We will suppose that in one yard bees are working on goldenrod, in another yard bees are doing nothing. To take a queen from the first-mentioned yard and try to introduce her by the fasting method in the other yard might result in her loss. Why? Because the aroma of the goldenrod would possibly make her a *persona non grata* in the yard where there was no such odor. Yes, indeed, the scent factor is very important and can not be overlooked. But he says he would by no means recommend that plan for the average person to follow out, as so much depends on conditions and the time of the year. In connection with this we may possibly lay down some general principles that may prove helpful.

1. When a little honey is coming in, it is much easier to introduce and unite bees than during a dearth.

2. A queen in the height of her egg-laying will be accepted far more readily than one that has been deprived of egg-laying, as in the case of one that has been four or five days in the mails.

3. Some colonies are more nervous than others. To open a hive of such on an unfavorable day might arouse the inmates to a stinging fury. Indeed, such colonies will often ball and sting their own queen when the hive is opened if the day is unfavorable.

4. It is easier to introduce toward night, or after dark, than during the day. The reason of this is that after dark the excitement of the day has subsided. There is no chance for robbing and no reason for vigil. In short, bees are not *expecting* trouble and are not inclined to make any.

5. A fasting queen, or, rather, a queen that is hungry, will usually ask for food, and hence will generally be treated more considerately than one that shows fear or fight.

6. The scent factor can not be ignored. It is because of this variety of conditions, which the average beginner and many old bee-keepers do not understand, that we would not recommend the fasting method, in preference to the caging plan. Mr. Bain uses either, according to circumstances; but with either he says he loses *no queens.* Right here he asked us not to make this statement, because he thought he would not be believed; but we know him well enough to say that he would not misrepresent the facts.

It is possibly true that, when the bee-keeping public becomes a little better educated, it might be safe for queen-breeders to advise the fasting method of introducing rather than the cage-and-candy plan. If they were all like Mr. Buchanan, and other conditions were suitable when the queens were received, we might recommend that plan;

but we doubt if it will ever be safe to substitute it for the cage-candy plan for *queens received through the mails. Don't forget that such queens are much harder to introduce than those fresh from a nucleus in the same yard.* This is the reason, we suspect, why Mr. Buchanan was so successful. If he had attempted that number of queens received from the mails he would have had a much greater percentage of loss.

In the mean time we are glad to get this report from Mr. Buchanan; and in order that we may know how far the fasting method has been successful with others, we solicit reports.—ED.]

## QUEER CLUSTERING-PLACES OF SWARMS.

BY W. A. PRYAL.

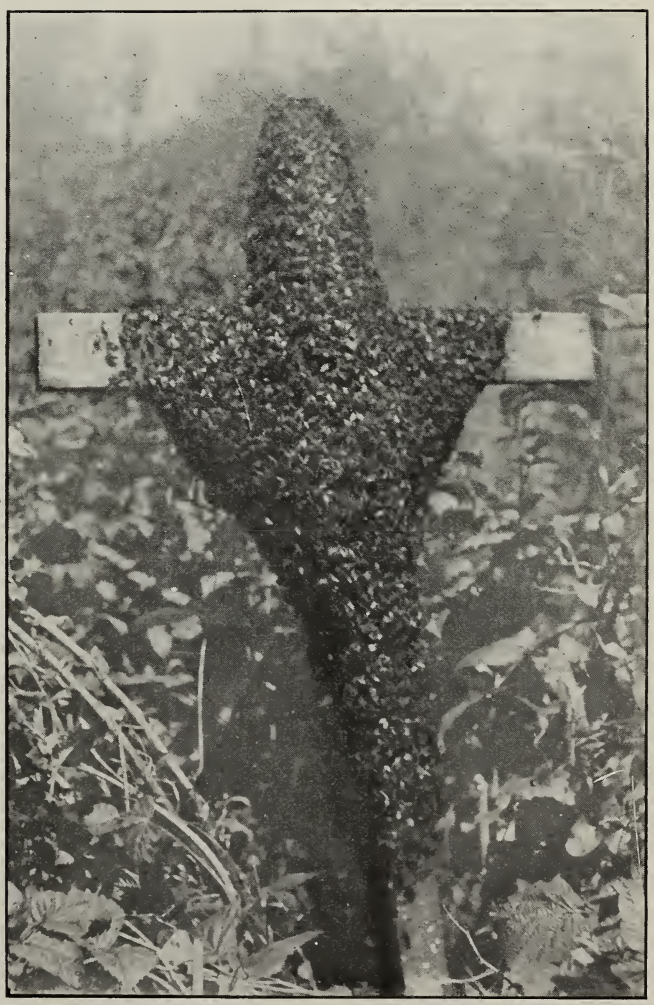
Bees, when swarming, are apt to alight in any place; hence we know of the colony of bees that occupied the lion's carcass, as related in the story of Samson, as well as many instances in modern times where they have preëmpted some queer homes. It was only the past spring that I read of a swarm in one of the cities of the State of Washington that alighted on the trolley-pole of an electric car standing at the end of its run. Then, elsewhere, one took possession of a street-car and sent the passengers scampering in every direction. Then we have heard of bees going into caves, rocks, holes in the ground, and into hollow trees, chimneys, etc. The past spring one of my swarms chose to alight as shown in the accompanying half-tone. We have a small patch of red raspberries, some of the canes of which are supported by wires running lengthwise of the rows. The wires are carried by small posts driven at convenient distances, and to these are cross-arms, at the ends of which the wires are attached by staples. It was on one of these wire-supporters that the swarm mentioned alighted. The wire on the left, as well as the berry-vines, had to be removed in order to get a good view of the swarm.

It is a rather novel position for a swarm of bees to assume, hence my sending you it as a curiosity.

Here I might remark, without trying to be unduly "punnish," if I may be allowed to use such a word, the bees of the swarm shown had not a cross disposition, though they assumed a cross position.

### HIVING BEES MADE EASY.

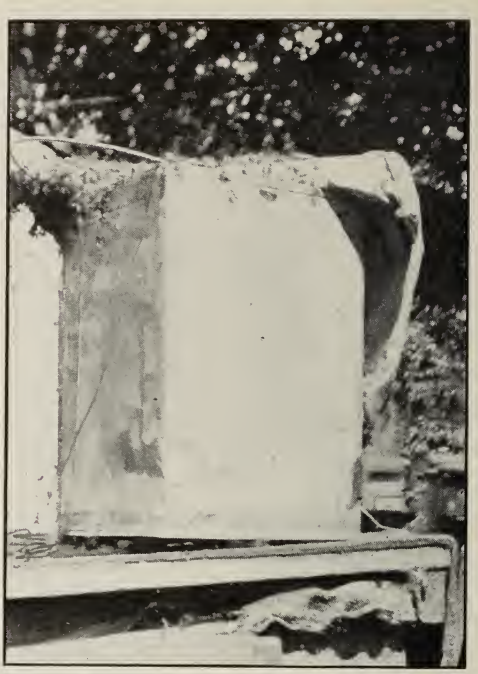
One day during the past swarming-season I had several swarms issue the same day in quick succession. The first alighted on the lower branches of a rather young cherry-tree, so that it was an easy matter to secure them with the aid of a short step-ladder. Instead of using a basket into which to shake the swarm I took a pail or bucket made out of a kerosene-can. I had hardly shaken the bees on the cloth upon which I set the hive I intended this new swarm to occupy, when I discovered a second colony sending forth issue. I knew at once where these swarming bees would alight or make for. I lost no time in gathering the cloth about the hive, thus securing the bees in a



NOT CROSS BEES BUT A CROSS OF BEES.

net, as it were. Before I lifted the hive from the ground to remove it to the stand I intended it to occupy henceforth, some of the bees from the second swarm began to cluster on the cloth. I brushed them off and then went about some operations that required my attention. In the course of five minutes I looked over to the aforesaid cherry-tree to see what size of swarm I was getting. Lo and behold, there was no swarm! Closer observation, however, revealed the fact that there seemed to be a goodly number of bees flying about the old oil-can I threw on the ground beneath the tree after I emptied it of the bees I shook from the tree so soon before. Approaching to investigate, I found that the entire swarm had taken possession of the inside of the can, with the exception of a few bees which were hastening to enter. I threw a sack over the top of the can preparatory to getting the camera. When I was ready I partially uncovered the bee-container. Of course, I was not able to show the large swarm that clustered within; but enough bees are shown clinging at the top on the outside to show that something was doing *inside*. It was but a few minutes after the camera's eye winked that I had those bees running into a nice comfortable dovetailed hive. Really, it seemed to have all been done in the twinkling of an eye.

Oakland, Cal.



A SWARM THAT CLUSTERED INSIDE AN OLD OIL-CAN.

## THE AUTOMOBILE AS USED BY AN EXTENSIVE BEE-KEEPER.

### Some Figures Showing Saving in Time and Labor.

BY HENRY STEWART.

[Mr. Henry Stewart is one of the extensive bee-keepers of the country, owning and operating a series of outyards. His experience with the automobile for outyard work will be particularly seasonable and valuable, because the matter of getting to and from outyards without wasting valuable time is of paramount importance.—ED.]

For carrying supplies to and from bee-yards I use a Buick automobile, which I find most satisfactory. There are seats for three persons, the small seat behind forming the cover of the tool-box. This I can remove by taking out the hinge screws, and with 2x4 pine pieces I build a platform large enough to take six eight-frame supers without piling them up. This framework just fits in between the fenders over the rear wheels, and it rests on the top of the tool-box. To support the load I extend the two main 2x4's of the frame under the front seat, while at the rear two bolts through the steel frame of the machine hold every thing secure.

To prevent the supers, etc., from shaking off the platform, I have stakes that fit in sockets in the framework. These stand as high as the top over the front seat, and are fastened by straps to the top. When I am carrying a heavy load a rope is placed around the stakes and held by means of hooks to make every thing secure. To change the car from a passenger vehicle to one capable of carrying a load, as described, requires about five minutes' work. The load shown in the engraving is made up of sixty 28-section supers. I can travel with the load at the rate of from twelve to twenty miles an hour, and I carry any thing that I could carry in any vehicle of like capacity.

The apiary furthest away is twelve miles from home. To go to this yard with a light load and a team requires two and a half hours with good average driving, with another half-hour for unloading, driving to the barn, putting up the team, etc. Then at noon I have to go back to the barn and feed the team before I can go back to work. At night there is another delay in hitching up. Then if I wish to carry any thing from the yard I must either stay until dark or carry it a safe distance from the bees, and then get it loaded in a hurry before any angry bees have begun to worry the horses. I find that at least six hours of the time is spent going and coming, with the extra work made necessary because of the horses, hitching up, etc.

With the auto I make the run in 45 minutes, and go right up to the bees, turn off the switch, and in five minutes can be at my work. At noon I jump into the car, go about 80 rods to dinner, and when I return I can run right up among the bees again and have no fear of any thing. I put in a full half day's work in the afternoon, crank up the machine, and in 45 minutes am at home getting ready for supper. I save, therefore, four and a half hours' time on a trip.

For my heaviest hauling I use a farm team; but for most of the road work I use the auto, and find the saving of time, when work is pressing, a most valuable feature.

Prophetstown, Ill.

[Mr. Stewart's experience has been quite in line with our own. For the last five years we have used the automobile in going to our bee-yards. It has proven to be reliable; and as a means for getting to the yards quickly it has no equal. Where a man runs a series of outyards a machine will enable him to take care of more bees than he could possibly do in the old-fashioned way with a horse and buggy or a horse and wagon. If his time is worth any thing this is a big item.

As Mr. Stewart says, there is no danger from stings; and the modern automobile, if one has ordinary skill and mechanical sense, will give him no trouble in handling, providing he has a standard make. In this connection it is fair to say that some persons would never be able to run a self-propelled vehicle, because it is not in them to run or drive it. An automobile is something like a fractious horse—it requires a little skill and a little experience to handle it.

We are just beginning to test the motor cycle for outyard work. While it is a splendid one-man machine, it can carry but a very small amount of luggage: and its capacity is, therefore, somewhat limited. But there are conditions under which the motor cycle will do quite as much work as an ordinary automobile at far less initial cost and far less cost for maintenance. Brand-new machines can now be had for anywhere from $175 to $250. We are testing a Harley-Davidson that sells for $210. As soon as we have had more experience with it we will give our readers the benefit of the information.

In the meantime we are fully convinced that some form of self-propelled vehicle will be almost a necessity for outyard work, especially if there be as many as four or five apiaries, some of the furthest of which are ten or fifteen miles from the home yard. In order to get good locations it is sometimes necessary to go quite a distance. If a yard is fifteen miles away, a horse-drawn vehicle is too slow, wasting too much valuable time. If a man is capable of handling and operating four or five yards successfully, the more actual work among the bees he can do himself, the less he has to hire. If he has to spend half his time on the road he loses practically half of his capacity to make the yards earn him his revenue.—Ed.]

## MEDIUM-PRICED AUTOMOBILES.

### Steam vs. Gasoline Machines.

BY JOHN P. TULL.

Noticing the few remarks in Gleanings about automobiles, will you kindly inform me if you have any knowledge of the Stanley steam car? Have you any in your city? Would you prefer steam or a gasoline car? I may order a car for about $1000, to seat

HENRY STEWART'S BUICK, MODEL 10, WHICH HE USES FOR OUT-APIARY WORK.

four persons, and am undecided which kind to buy. I feel inclined toward the Stanley steamer, owing to its easy riding, on account of my wife's health. She underwent an operation about a year ago, and is very tender in the side. Any information you can give me in reference to this car will be fully appreciated.

Philadelphia, Pa., April 21.

[There are only two steam automobiles on the market that we would recommend—the White and the Stanley. Both of them are said to be somewhat expensive to maintain. Both use, for the same mileage, from one-third to one-half more gasoline than the regular internal explosion, or what is generally called a gasoline-engine. They are not as satisfactory for winter use; they are much more complicated, have a lot of little dinky pumps, and small pipes that are liable to give trouble. If one can afford a chauffeur, and stand the larger cost for maintenance and repairs, the machine is all right. It is easier to drive than the gasoline-car, is more flexible, is slightly quieter than some gasoline-cars, and can be driven at a slower pace through crowded sections of a city. On the other hand, the gasoline-car has been so far perfected that there are several machines that can be driven fully as slowly as the steam, and the cost of maintenance is much less than that of the other type.

If you want a nice little gasoline-car for about $1100, that your wife can drive, that is very quiet in operation, quieter than most steam machines, that can be driven at any speed from one mile up to thirty, we would recommend the Cartercar friction drive. It has a very simple transmission, and is about the quietest gasoline-car of which we have knowledge. We have one of them in our family, which runs so quietly that one would think it was an electric. It seats four people, and has a nominal rating of 22 or 25 horse power. The Overland, at $1000, will carry four passengers. It is a faster machine, and is exceedingly well designed. If you are willing to pay a little more money you will find the Reo $1250 four-cylinder one of the best machines on the market, built in a large factory, and is first-class in every respect. This will carry five passengers; has ample power, and is backed by a company that has been making good for years. We have driven Reos for the last four years, and have three of them in our family. One double-cylinder car we drove thousands of miles with a maintenance expense of only $50.00 a year for repairs and tires. Talk with any garage man and he will tell you this is remarkable, and yet the two-cylinder Reo cars have been doing that. You can buy these two-cylinder five-passenger cars for $1000. They are very simple, and cost of maintenance and repairs would probably be less than any other car you could buy; but it is not as well adapted for city streets, for slow driving, as the Cartercar. The four-cylinder motor makes a more flexible power, and that is the reason why the Cartercar, especially with its form of transmission, would be better suited for your purpose.

BASKET USED IN SECURING SWARMS CLUSTERED IN THE TOP OF TALL TREES.

The Ford four-cylinder and the Buick four-cylinder are also fine machines. The former can be bought for $850, and is a five-passenger car. The latter costs about $1000. If you have a top to either it will add about $75.00 more to the expense.

We have absolutely no interest in any one of these cars; do not carry any agency, nor do we have any advertising from any of these makes. The writer has made a special study of automobile construction. Owing to the fact that many of our subscribers have been asking for in-

THE BEES DUMPED ON A SHEET BEFORE THE HIVE.

formation we have felt it our duty to tell of our experience.

If you were in the country, and wanted to go over very rough or muddy roads we would recommend one of the high-wheeled type of machines made by the International Harvester Company, of Akron, Ohio, or by the Auto Bug Co., Norwalk, Ohio. These are good machines; but they are ungainly-looking. They are not in keeping with the general styles of automobiles with pneumatic tires. For pleasure-driving, the pneumatic-tired low-wheeled machines are much to be preferred.—ED.]

## SECURING SWARMS IN TALL TREES.

BY FRANK C. PELLETT.

Quite frequently the question is asked, "How shall I capture swarms that cluster in tall trees?" The editor always gives the excellent advice to place the apiary where there are no convenient clustering-places beyond easy reach. Perhaps, however, there are others situated as I am, with no such place available, and so I will try to make clear my methods of capturing swarms that have clustered high up above the reach of the longest ladder. Every year there are several such swarms to be considered, and in some cases they cluster from forty to fifty feet above the ground. After three successive years of tree-climbing, however, let me say that we are preparing to follow the editor's advice to get the bees out of easy reach of tall trees as soon as possible. None of the methods described from time to time have been of any use to me, as my trees are very tall native oaks and elms, walnuts, etc., with few limbs less than twenty feet from the ground.

A painter's extension ladder enables one to reach the limbs, and for the rest of the distance it is simply climb. The accompanying picture shows the basket which we use for bringing the bees to the ground, a large one holding a bushel and a half, with ropes tied across to form a convenient handle. With this basket it is not a difficult matter to get most of the swarms. Simply climb the tree and shake them into it and bring them down. When perchance a swarm clusters so far out on the limbs that we can not use the basket, a sack is substituted. The other picture shows a large swarm that clustered in the extreme top of a large elm. The bees may be seen leaving the sack and entering the hive. This was the most difficult feat of three years' experience, and about cured us of the tree-climbing habit.

ACKERMAN'S APIARY, SHOWING VENTILATING-BLOCKS UNDER THE BROOD-CHAMBER.

Although we have had some bad ones we have never yet failed to get the swarm, no matter how difficult their location, although it is no simple matter to get the sack over a large cluster on the end of a limb forty feet above ground.

Atlantic, Iowa.

[You don't say any thing about clipping your queens' wings. If you practiced clipping all your queens in the first place, there should be little or no climbing of these tall trees. All you would have to do would be to wait for the swarms to return to their respective queens, when the rest would be easy.—Ed.]

## INCREASED BOTTOM VENTILATION TO STOP SWARMING.

### The Plan of Raising the Hives from Bottom-boards Practiced Four Years with Good Results.

BY WALTER ACKERMAN.

When the weather gets hot, and bees hang out around the entrances, I put blocks under the hives toward evening, varying the thickness of the blocks according to the strength of the colonies. For instance, if the bees hang out just a little I use ½-inch blocks; in other cases I use ⅞-inch; and for colonies that are very strong, 1½-inch. By the next day the bees begin to act differently; and so far as preventing swarming is concerned, if this work is done not less than a week before there are signs of swarming, it can be stopped. One needs to be careful, however, and not let robbing get started. Even though my hives are pretty well shaded I have been providing this extra ventilation for about four years, and I would not think of doing any other way.

In regard to comb-building between the combs and bottom-board, my experience is like that of Mr. J. A. Yeomans, as given on page 638, October 15. I have never had such trouble. The bees use either side of the hive or the ends for entrances.

The illustration shows my yard as it was two years ago. Some of the hives are raised from the bottom-board. The one marked with a cross had four two-inch blocks under it, besides the extra ventilation afforded by reason of the super being moved back. Some of the other hives had ⅞-inch blocks, while still others, being nuclei, were kept closed on account of danger of robbers. I had shade-boards over the hives, but removed them when the picture was taken.

It is very windy here at times, and I need plenty of weight on the covers to keep them from blowing off.

Portsmouth, Ohio.

[Several have already reported favorably on this kind of bottom ventilation to keep down swarming. The trick is so simple, and so easily applied, that we hope many will try it and report. Don't forget that the remedy must be applied *before* the bees make preparations for swarming. In the meantime, there are doubtless others who have tried this ventilation plan for checking swarming. If so, we hope they will report their experience.—Ed.]

## SWARMING.

### Some of the Causes that Induce it; Can the Swarming Instinct be Bred out? an Elementary Discussion that will Prove Helpful to Beginners.

BY GEO. W. WILLIAMS.

It is generally understood that swarming, or, rather, the interruption of work, before and after the swarming act, costs a large per cent of the honey we could otherwise secure. It is true that we can, by more or less complex systems of management, partially overcome this loss; but we pay the price in added work, and in worry and uncertainty. What a boon it would be if we could eliminate this troublesome tendency! But can we do it? The logical way would seem to be by selection and judicious breeding, both of which are advocated by some of our best writers. But if we are to succeed we must fully analyze the difficulties that must be overcome.

We must always keep before us the fundamental truth that bees are not reasoning beings to any appreciable extent, but are governed entirely by instinct. We must also remember that, while instinct is knowledge, it is *inherited* knowledge, and it is as unchangeable as the laws of the Medes and the Persians. Hence, under similar conditions the actions and conduct of bees will always be the same, regardless of location. Allow me to emphasize this thought, and put it in the form of an unvarying principle: *Under similar conditions, any given stimulus will at any time produce the same results.*

Another fact we must consider is that bees, being governed entirely by instinct, can have no initiative of their own, but must of necessity be stimulated to any action whatever by outside influences.

Now it follows, that, as bees are governed by instinct, and instinct is stimulated to action by outside influences, if we are to change results from what we have at present, we must change either the instinct of the bee or the surrounding influences. Either one will secure results.

We know that bees will not swarm at all under certain conditions. Given room, a cool and uniform temperature, and freedom from the excitement of other bees swarming, they will not swarm. Inversely, contract and crowd the abode, raise the temperature, and place them among swarming colonies, any bees will swarm. Unfortunately, the conditions that stimulate them to do their best work in storing also stimulates the swarming instinct. This limits the field for improvement in this direction to a choice among the half-dozen systems of more or less successful control by manipulation.

After a trial of any or all of these sysuems our minds invariably turn toward the other and very desirable thing of changing the instinct of bees so that they will not desire to swarm, no matter how we crowd them nor how rapid a pace we induce them to maintain.

Upon a careful analysis, this seems less hopeful than the other scheme, unless we could control mating as we control it in our other live stock: for any tendency to improvement in this direction is leveled down by the crushing mass of adverse influences.

When we can successfully control the mating, we can hope for practical results along this line, and not before; for instinct, as I stated before, is simply inherited knowledge handed down from generation to generation from some remote ancestor who somehow acquired it, and it is as real and tangible a portion of the nervous system as the legs or wings are of the body. Hence the young bee does not have to *learn* to gather honey nor to build comb, but the knowledge comes to it ready made along with the knowledge of walking or flying. So it seems that, if we are to change the actions of the bees and not change the conditions surrounding them, we must really change their physical structure. We all know what a gigantic undertaking it is to change the length of our bees' tongues, even with millions of tubes of red clover tempting them every day in June, calling on nature to add just one tiny bit to the tips of their tongue so as to sip the precious nectar almost, but not quite, in reach.

How, then, can we hope for any great results in changing a tendency that was implanted ages before Samson found the swarm in his lion's dried carcass, and has ever since been fostered and encouraged by systems of "taking up" the heavy new swarms and keeping the swarm.

If we are to change the physical structure we must do so by subjecting the bees to a sustained condition that does not excite the swarming tendency, long enough so that this portion of the nervous system shall become eliminated by disuse. How long this may be I do not know. I knew two instances where colonies had remained 25 years without swarming, and, when placed in ordinary conditions, they swarmed as freely as if they had never had a vacation. I imagine that, if we were to put a colony into a case isolated from other bees, and leave them a couple of thousand years or so without swarming, and then restore them to ordinary conditions, they would not swarm more than once in two or three years any way; but I should not expect much better results.

There is one thing that offers some slight hope for improvement; and that is, the tendency of some offspring to vary slightly from the parent stock. But in bees and ants the effect of their habits of mating has been to equalize and fix the racial instincts so firmly in their physical structure that sports are rare indeed; but they do occur, and by a combined effort in selecting the non-swarming queens to breed from we may improve in this respect; but it will be a slow process, and in the meantime we comb-honey producers must use the best system we

can find to overcome the tendency. At any rate, these troubles of swarming, foul-brood, etc., are not without their benefits. I can control foul brood, and I can, by a proper system, direct the energies of the bees into the proper channels, and, by my system of shaking, keep their energy keyed up to the proper pitch while the flow lasts; and while *I* can do these things at a profit, others who possibly could do them, but do not take the trouble to learn how, do not do them, and fail. Otherwise they might be troublesome competitors.

By the way, did it ever occur to you that, if the swarming impulse were eliminated, the building of drone comb would also be eliminated? The thought has occurred to me that, if we could establish and maintain the conditions favorable for building worker comb only (always excepting the time of superseding), the swarming question would be solved.

I have been able to establish, but not to maintain, this condition indefinitely. Now, Dr. Miller, can you not suggest some plan to do so, and thereby place the coping to the splendid monument you have erected to guide the feet of the laity?

Redkey, Ind.

## THE UNDERLYING PRINCIPLE OF SHAKING.

### Interchange of the Division of a Sectional Hive the More Scientific Treatment.

BY LEO E. GATELY.

Successful honey-producers have reported beneficial results from shaking to increase the energy of bees; and, from the nature of things, others have expressed a strong belief in its efficiency. I wish merely to draw attention to the mistake made in supposing the operation in itself to be in some mysterious way a stimulus, while all such benefits clearly emanate from a change of conditions connected with the manipulation. Let us lay aside tradition and preconceived notions, examining this subject with a desire to know the truth.

The error in concluding that benefit is derived purely through the act of dislodging bees from their combs into a pile before the hive is apparent when the claim is set forth that the disturbance will bring old colonies into some psychological condition which characterizes swarms. If newly hived swarms display an unusual degree of activity, it has been conclusively shown that such energy is not a result of the swarm having issued from the hive, nor its handling in being captured, but entirely from new environments. How frequently is an incidence taken for a cause! and how severely are the poor bees often made to suffer through ignorance and lack of careful investigation! It is the broodless condition of newly hived swarms, and not mental conditions, that is alone attributable to an increased activity.

DAMAGED SHIPPING-CASES.
*See Bee-keeping in the Southwest.*

Colonies that refuse, during a good flow, to do super work while others may be busy in the sections, will, if investigation be made, generally be found laboring under adverse conditions. They can usually be induced to do so by providing more favorable conditions under which naturally they are inclined to do such work—never through dumping them out upon the grass. Some colonies are naturally inclined to ignore supers because of inferior blood; but more frequently it is the result of extenuating circumstances and surrounding influences.

Shaking will occasionally remove undesirable conditions through breaking into and disarranging the natural order of things; but the benefits are accidental, and he who would be master of the situation must rather locate and remedy evils. Certain it is that the mere act of dumping bees before their entrance, and letting them creep back to their work, is of absolutely no value except when connected with a change of environment. To anticipate beneficial results from indiscriminate shaking would be extremely illogical and inconsistent, as it is simply preventing the colonies from working. On the other hand, intelligent manipulation is imperative and indispensable to profitable honey-production.

By the transposition of brood-sections, users of divisible hives can accomplish in a few minutes, and with a minimum of labor, the object sought by "shakers." To create increased activity positively it is then only

necessary to interchange the two divisions of the brood-chamber, causing the bees to move honey. This scientific operation, practiced at the time of giving surplus receptacles, will compel the bees to begin super work immediately.

In shaking, as in our other operations, let us apply knowledge and scientific principles instead of viewing it in the light of some intangible and mysterious force or freak of nature.

Sebastian Co., Ark.

[We doubt if all of our readers will agree with our correspondent in saying that the extra energy of a new swarm is due to a change of external conditions rather than to any psychological effect. Possibly he is right. In any event, the subject will merit some discussion.—Ed.]

## RHEUMATISM AND BEE-STINGS.

### An Interesting and Instructive Article.

BY A MICHIGAN COUNTRY DOCTOR.

I have been instructed, amused, and depressed as my mind has been played upon by the various references I have seen in professional, miscellaneous, news, and special journals upon bee-sting poison and rheumatism. I have experienced these different mental modalities as sense, nonsense, and ignorance are exposed by the various writers. I note in Gleanings occasional discussions of this subject. I am not an expert in the ways of bees nor in the production of honey. I am only a country doctor who studies, among other subjects of routine, "rheumatism." Any one who is looking for a cure for rheumatism is searching for what he will never find. One who is looking for a relief for *his own* rheumatism may find it.

The old-fashioned notion that there is a cure for a disease—i. e., that a disease, separate and apart from its peculiar manifestations in the person who has it, has a medicine that will operate curatively, is no longer held by any one who has a comprehension of the nature of diseases and the action of remedies. Diseases manifest themselves differently in different people. In one, so-called rheumatism manifests itself in one way; in another person its manifestations are as different as if due to another cause. Some have the pain located in the back, others in the trunk, some in the small joints, others in the large ones. In some the pains are muscular; in others they appear to be in the tendons and sheaths of muscles. In some it hurts all the time; in others pain is periodical, or aggravated by particular conditions. Some have fever with rheumatism, and are sick abed. Some have heart-valves and heart muscle involved. Some can not move; others are so restless they can not keep still. Now, to relieve the particular manifestations of the rheumatic affection a remedy must be selected that corresponds to the individual's case. Every person has his own individual rheumatism. Be the aggravation in his heart, general muscular system, tendons, sheaths of muscles, joints, or where it may be, it is affecting him differently, and he is a different "rheumatic," just as he may be a child, a grown-up person, one with good habits, is afflicted with other taints, is rugged or weak, plethoric or anemic, exposed or well housed, confined to bed, or impelled to move about for relief, etc.

Physicians no longer prescribe medicines for diseases. They prescribe for the sufferer who has the disease, and dispense the remedy as indicated by the signs and manifestations in his particular case.

The actual cause of rheumatism is not known; but it is known not to be uric acid. Uric acid may be the cause of gout, but not of rheumatism. The opinion generally prevails among scientific physicians that rheumatism is a germ disease, although the exciting microbe or microbes have not been satisfactorily identified (see *Med. Record*, Dec. 11, 1909, p. 976). Some rheumatics are relieved by salicylic acid, some by colchucum, some by aconite, some by one remedy, some by another. There is no specific for it. Consequently, if bee-poison will relieve a form of expression that rheumatism may take, it is foolish to expect it to relieve all, any more than salicylate of soda will relieve all.

There is a type of rheumatism, or rheumatic-like ache and pain, that will be relieved by *apium virum*—the poison of bee-stings. The kind of joint and muscle aches and pains that will react to the bee-poison is that accompanied by local dropsical swellings about the parts affected. The skin around the sore spot is waxy and pale in appearance. The urine is usually scanty. The pulse is quick, hard, and small in severe cases.

Many cases of heart involvement with fluid in the "heart-sack" yield to it. The synovial (or joint) membranes are particularly frequent seats of the swelling that will respond to this treatment.

The cases of rheumatic-like states that will be relieved by the bee-poison are not the most common kind by any means. That is the reason that all who are afflicted with the ailment are not relieved by the treatment. Those cases that have been reported as cured or ameliorated have been the ones to which the poison is remedial; those that have not reacted needed some other kind of remedy, which may or may not have been one of a dozen.

The virus of honey-bees is a commodity in the drug market, and is to be had from pharmacists for dispensing. It has its indications in the therapeutic field, and is in the armamentarium of hundreds of physicians. Those who know how to use it, and who understand its clinical indications, rely upon it with as much confidence as is to be reposed in any drug. I believe that there are dealers in and producers of bee products who can tell something about "orders"

from pharmacists for the "raw" material from which the remedy is produced.

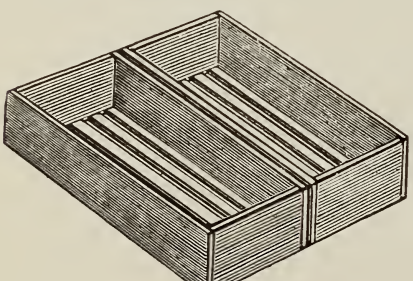
[While our correspondent modestly signs himself "A Country Doctor," one of our staff happens to know something of him. Dr. — is connected with a great institution where his opportunity for observation and treatment of rheumatism is much greater than most doctors have. We know, too, that he had under his care one of the most severe cases of rheumatic affection that is often seen, and this case came from a bee-keeper's family. We can only add that our confidence in his judgment, as shown in the case mentioned, is unbounded, and we know his article is inspired by a desire to be helpful, and to set our readers right on this matter.—ED.]

## PRODUCING COMB HONEY WITHOUT SEPARATORS.

### How the Super Should be Arranged; Full Sheets of Foundation in Split Sections.

BY SAMUEL SIMMINS.

Mr. W. Z. Hutchinson and other practical producers claim that they have produced good straight section combs of high quality without using separators, and they are fully justified in making the assertion. Nevertheless, when manufacturers start to offer supers for sections set up without separators they find very little demand for such wares. It may be that the members of our fraternity have not been educated to the use of sections without separators, though I fear many will never take the necessary trouble, slight as



it is, to keep their hives level. That point is, of course, important, more especially where full sheets of foundation are not used and they are not fastened to both sides of the section.

Some thirty years ago I was making strenuous efforts to induce comb-honey producers to make a trial without using separators. I also showed how one might meet the problem half way, as it were, by adopting twin supers with only four sections across (Fig. 17, 1904 edition, "Modern Bee Farm"), or triplets with three sections across. In any of these there are no lose pieces about, and no large number of sections without a separator.

The narrow or vertically divided form of super allows of rapid completion, and permits of further manipulation to that end. It is well known that the end-row sections are often thinner, and frequently delayed in completion; but the twin crates allow of these outer ends being presently turned to the center, and the center to the outside. They are then worked out as perfectly as any. The triplets first illustrated in my 1886 pamphlet allow of similar manipulation, while the central crate is quickly ready for removal.

Perhaps even a greater advantage with these twins and triplets is that of having fixed slatted bottoms. They can thus be placed close on top-bars of the frames below; but note this—always *crosswise* of the frames. Thus the bees have a number of square openings, admitting them to the supers, and those spaces are never filled up with bits of comb, for the simple reason that no place is left for brace-combs between the frames and the first super. Neither is there any space between the additional sets of supers that may be given later—a condition in ordinary supers which sometimes checks the bees, resulting in the upper tiers being badly finished or entirely neglected. Though placed crosswise on the brood-frames, all sets of supers are placed the same way.

You need crush no bees in placing the supers in position, because they are in twins or triplets; and for the same reason the glueing-down causes little inconvenience compared with the manifold advantages derived from the twin or triplet system without separators. A full-size crate with slats close on the frames below would, of course, be somewhat difficult of removal; but the sectional formation on vertical lines is quite a different thing, as a practical worker soon finds.

The slats should not be more than ¼-inch thick; a ⅜-inch bar is clumsy, and serves to place the sections that much further from the bees below—a detriment, as will be admitted, when first getting the bees to start super work. Many section-frame holders have the bottom-bar ⅜ inch thick, and these, again, spaced ⅜ inch away from the frames—a most serious impediment, more especially when the apiarist also interposes a queen-excluder.

One reason why the ⅜-inch bar is used under sections is probably because the producer often insists upon working four sections in a frame instead of three, and, unfortunately, the manufacturer appears to encourage this false practice. By spreading sections over too wide a superficial area the combs are not completed so quickly, neither are they finished all around against the wood as perfectly as when fewer are used within the confines of the warmth ascending from the colony. The fact is, a tier of three crates, each holding 21 sections, will be finished off more quickly, and in better condition, than two crates of 24 or 28 sections each.

This point in favor of the smaller number of sections to the crate is intensified when the additional outer margins of space are

given up to packing rather than to a surplus of exposed sections a much smaller number of combs being found in an unfinished state at the close of the season. As an example, a moderately strong stock was supered with a crate of only 16 sections; and within a few days the number was made up to three in one tier. Two were so quickly completed that they were removed and replaced by two others, making five in all (of sixteen each) during a poor honey season, and in little more than three weeks the whole 80 were completed in perfect condition. Colonies in other hives, supered with crates containing 24 sections, and having exposed sides, did not finish off half the number. The small crates of 16 each were within an outer case, and the work was so rapid that the queen had all the stock combs to herself. No excluder was used; and, even if so inclined, she had no chance to start laying where the workers were storing all the honey they brought in. The crates had slatted bottoms resting close on the frame-bars, and each crate close on that below.

If the bees are induced to start off more quickly in the smaller well-protected crate it stands to reason the queen is less likely to be crowded out of her legitimate domain, and the hive has a larger population all the time, while excluders are superfluous.

The twins or triplets with slatted bars may be set on with a sliding motion, starting from the ends of the frames; or any one used to bees can place them after smoking, by a gentle swaying motion that will cause any stray bee to run down.

As illustrated in the 1886 pamphlet issued by me, the outer sections are set against ⅛-inch slips tacked to the sides of the cases, thus equalizing the thickness of the combs. I have never found it necessary to use less than 1¼-inch sections without separators, and have had no uneven or bad-shaped combs built at that gauge. I have, however, always used full sheets of foundation; i. e., fixed to top and two sides, but ¼ inch clear of the bottom, and I am unable to agree with the editor that foundation showing through the saw-cut is likely to give comb honey a bad name. Full sheets waxed to the top and sides certainly give combs that can be shipped more safely than those combs built from starters only; but the waxing around the sides will surely be objected to as much as the foundation showing through without that rim of wax inside, and which shows up only too well when the comb is cut out. If the waxing is strong, the foundation held in the saw-cut is certainly far stronger for shipping to distant markets.

If it were not for the above question of marketing, and for securing the largest possible quantity of beautiful-looking combs with even worker-finished cappings, one might well agree that there is no comb honey to equal that started from the smallest possible guide of wax, so far as the eating of it is concerned.

A diminished output, however, and a large percentage of broken combs, will not bring much profit to the producer, nor will the salesman be at all eager to repeat his order for goods that do not arrive in a presentable or marketable condition. Hence while studying the consumer as far as possible the producer can not afford to discard the most expeditious methods of preparing his sections; and I believe there is no quicker way than that of inserting the foundation into sections cut through on three sides—i.e., top and two sides; and, still further, by having the foundation long enough to slip into three or four sections in the same row at one operation—a plan I have adopted for some 18 years; besides sending out large numbers so prepared during that period, without one single intimation that there was any idea of artificial comb honey.

About fourteen years ago I sent GLEANINGS a sample frame of three sections, cut through on three sides, with the full sheet of foundation across the three; but the editor did not seem to catch on to the idea that there was a great saving of time over waxing, and no possibility of any ill-shaped combs caused by foundation falling through the weight and heat of the bees.

I have found little advantage is using high side walls to super foundation, as the bees almost invariably scrape off the raised portions and start anew. I have also reason to believe it is not unusual for them at the same time to alter somewhat the bases of the cells. We hear very little of the VanDeusen flat-bottomed foundation now, but I am of the opinion that *that* kind is least noticeable in the finished product. The very thin base, when altered by the bees, being little if any thicker than the natural comb, is a point that brings us nearer to pleasing the palate of the consumer.

Heathfield, Eng., Dec. 4

## A VISIT TO A CALIFORNIA APIARY.

### Prospects for the Season.

BY MRS. H. G. ACKLIN.

The writer took a run a few days ago out to the apiary of D. J. Shultis, secretary of the Los Angeles County Bee-keepers' Club. This apiary, of about 325 colonies, is located a short distance from the Monrovia car line and Santa Anita road. The path to the house leads through an orange-grove, and on the morning of my visit the bees were literally swarming on those full-blooming trees.

On reaching the house a young girl directed me to the apiary, which is a short distance to the north, kindly telling me to call to Mr. Shultis before reaching there, and he would come out; otherwise I might get stung. I walked right in, but did not turn around and walk right out again, as the bees were too busy with orange-blossoms to pay any attention to me.

Mr. and Mrs. Shultis were both as busy as they could be, trying to give the bees room by extracting a few combs from each

super. Two or three hot days had brought the blossoms forward so quickly that they were not prepared for the rush of honey; and the way that orange-blossom nectar was sailing in was a caution.

I was soon ready to pump the smoker for Mr. Shultis while he brushed the bees from the combs. Some of those combs must have contained eight or ten pounds of honey, they were so fat; but I believe some California bee-keepers like fat combs. At any rate, this particular one gave his bees a chance to build them that way, having one or two combs less than the regulation number in each super. The capping on this honey was fully as white as on the white-clover or basswood honey in the East.

The compactness of this apiary was a surprise. There were 325 hives, all facing one way, if I remember rightly, in a comparatively small space—just room enough between the rows, north and south, to run a narrow wheelbarrow. It seems almost any thing can be done with bees when nectar is plentiful; but I wonder if they will be as amiable all this hot summer after the orange bloom is gone.

Mr. Shultis expects to get four tons or more of orange-blossom honey this spring; and as this will be practically the first new honey on the market, it will command a fancy price. The honey-tanks stand out in the sunshine, and are filled by means of a pipe running from the honey-house, several feet distant. They are also near a wagon-road. Room to place a five-gallon can is made in the ground under each faucet, so filling the honey into cans and loading it will be comparatively easy.

In conversing with a gentleman from Canada the other day, who has been in the southern part of the State the past year engaged in the bee business, an interesting subject was touched upon. He claims that wintering is more of a problem here than in his old home. His argument is that the queen lays no eggs during the cool rainy months; but the workers are out, except when it is raining, after forage, which really amounts to but very little, thereby wearing themselves out and reducing the strength of the colony, with no brood coming along to take their places. The consequence is that, when fruit bloom comes on, most colonies are too weak to send out a large force of workers, and so the harvest is lost. On the other hand, bees wintered in a cold climate have been resting for several months, and start out in the spring with a large force of energetic workers. Of course, we all understand that the deciduous fruit bloom comes on much earlier here than in the North and East. How is this, Mr. California Beekeeper?

The late rains have set things a-hummin' in beedom. Bees are being moved to wild-buckwheat fields that would have remained on their winter stands only for the rain. Nevertheless a large honey crop is not expected in Southern California, especially where the sages are the principal forage plants.

Wild mustard grows almost everywhere in great profusion in this locality, and is now in full bloom. Probably it is always in full bloom. I never remember seeing it otherwise. Why do we not hear of wild-mustard honey? If all the waste places were covered with sweet clover instead of mustard, what a jollification the bees would have; and, incidentally, their keepers also!

Mr. C. H. Clayton, of Los Angeles, is experimenting with an uncapping-device which, if it proves a success, will be a great labor and time saver to bee-keepers, and especially so to the apiarist who has hundreds of colonies. I can just imagine the outfit working which I saw standing still the other day. A gasoline-engine was hitched up to our eight-frame extractor, with this device firmly attached to the top of the extractor. The most arduous labor of the bee-keeper with that outfit will be to pocket the money from the proceeds of the season's crop.

The next meeting of the Los Angeles County Bee-keepers' Club will occur on Saturday, June 4, in the committee room, third floor, Chamber of Commerce. This club did enough during the first week of its existence to justify its organization. The committee named to confer with the County Supervisors in regard to shipping restrictions got right after its work; and the consequence was that an ordinance was passed prohibiting the shipping of any bees, which were located within twenty-five miles of a district infected with black brood, into this county.

---

### Plenty of Honey from the Cow Pea.

Mr. Dillard, April 1, page 235, asks if bees gather honey from field peas. My observation for years has been that the field pea that he refers to, which is the cow pea, not the pea of the North, does produce nectar or some sweet around the joints where blossoms join the upright stems. This is where the bees, and particularly the common red wasps, love to feed. I do not know that the honey-bee can reach the honey in the blossoms. Whatever substance exudes from the point mentioned is not confined to the blooming time alone, but is present, more or less, later, the joints taking on bright or dark red color. My reason for stating that the pea to which Mr. D. has reference is the cow pea is that this is the Southern pea, and should be in bloom late. The Canada field pea, if grown in Georgia, would be ripe and dry by harvest.

Phœnix, Ariz., April 7. E. T. HUNT.

### Plaster-of-Paris Method of Killing Rats Very Satisfactory.

I wish to indorse Mr. Hacking's method of exterminating rats, p. 128. I have used it for years, and consider it the most humane, effective, and safe way of ridding the premises of rats. They are hard to catch in traps, and cats as well as fowls are liable to be caught. I would not put out poison for any consideration. I take the precaution to turn a box over the pan of mixture, with the corners blocked up so nothing larger than a rat can go under. This keeps poultry and birds from it.

I do not think it is necessary to put out a dish of water if there is any water to be had within half a mile, for they will immediately go in search of it; and if they have to go a few rods it takes them away so they do not die about the buildings.

If a cat or dog should happen to eat a carcass there would be no bad effect as would be the case if the rat had been poisoned.

Mansfield, Pa., March 14. A. D. WATSON.

# Heads of Grain

*from Different Fields*

### Disinfecting Hives and Frames; Honey Vinegar.

1. Is not boiling water sufficient to disinfect foul-brood hives and frames?

2. Can a super of dry combs that has been on a foul-brood hive be used with safety?

3. Last spring I had a few colonies that showed foul brood; but after they swarmed and the new queen had commenced laying it disappeared. When a new swarm is placed on full combs, why would they not work as well in two supers or hive-bodies, with full foundation, as one?

4. How can I make honey vinegar? I put several gallons of honey-sweetened water in a crock last fall, and it is now just as sweet as ever. I have a good deal of very dark honey which is not readily salable, and I should like to make it into vinegar.

5. Is there any way to restore soured honey?

Fenwick, Mich. C. W. SANDERS.

[1. It is doubtful if boiling water splashed into the hives would be sufficient; but frames should be boiled at least twenty minutes, and we would recommend one or two hours to make sure. We should much prefer to disinfect the hives by means of a flame from a gasoline-torch or burning a little straw inside of the hive, so that *every portion* of the inside of the hive and the entrance and alighting-board will be blackened but not charred.

2. Yes and no. In the great majority of cases, empty combs from a super above a foul-broody colony will not carry disease; and as there is always danger, we would advise putting such combs in some particular hive and keeping watch of them there. If you wish to be on the safe side, melt the combs up and substitute clean frames with foundation. If the rendering be done properly the price secured from the wax will buy new foundation.

3. A swarm can just as well be placed in two supers or hive-bodies of combs as in one—no advantage in using two unless the colony is very strong.

4. Your honey water was probably too sweet. The late E. France, who used to make considerable quantities of honey vinegar, determined the degree of sweetness by putting in the mixture of honey and water a fresh egg. If the egg would float so as to leave just a spot above the liquid about as large as a ten-cent piece he pronounced it about right. Mr. G. D. Black uses an ordinary hydrometer. This should sink, he says, into the liquid so that the scale will register at 11. It is important to place the sweetened water in a warm place in an open vessel covered with cheese-cloth to keep out insects. The process of making vinegar can be greatly hastened by using "mother" from an old vinegar-barrel.

5. Nothing can be done with sour honey except to convert it into vinegar.—ED.]

### Making Increase and Changing from Eight-frame to Danzenbaker Hives.

Last year I had one colony of bees, and managed to increase it to four colonies without any trouble, and they are doing finely. They are in eight-frame dovetailed hive. I have now bought twelve Danzenbaker hives with supers and full-sheet foundation. What is the best way to make increase from eight-frame hives to Danzenbaker hives, without swarming? In your booklet, "Facts About Bees," on p. 56, you speak about the queen occupying the cells. How did the queen get there? Was it accidental or was she shaken off into the grass with the bees? On p. 774, Dec. 15, Mr. Barron tells me how to increase on the shake-out plan. Where does he shake the bees? and what does he do with the brood? I wish very much he had told more about it in his communication.

Tilton, N. H., Dec. 25. F. M. CLARK.

[When we speak about the queen "occupying the cells," p. 56 of "Facts about Bees," we mean *laying* in those cells. You have the impression, somehow, that she went inside of a queen-cell. That is not what we meant. Referring to the item on page 774, Dec. 15, Mr. Barron meant the usual procedure—that is, shaking the bees in front of the entrance. The brood can be left in the parent hive, for not all of the bees will be shaken out of it. For further particulars on shook swarming see "Facts About Bees," also our A B C of Bee Culture, under the head of "Swarming."—ED.]

### Would Another Swarm Issue Within 30 Days?

When the first swarm comes out, if the old hive with what bees are left, together with all the frames of brood and queen-cells, are moved to a new stand, can two of the frames of brood containing one queen-cell be placed in a hive on top of the old hive, having a queen-excluder between? There would thus be one queen-cell in the top hive, and one in the lower hive with queen-excluder between them. Of course, there would have to be a small opening in the top hive till the young queen has taken her bridal flight. As soon as the young queen has commenced to lay, the top hive could be filled out with frames of foundation. Would such an arrangement cause the lower hive to cast another swarm before thirty days? If one of the young queens failed to return from her flight, the other would most likely land safely.

Colorado. A. B. CLEMENT.

[There will be no danger of a second swarm if all the cells but one are cut out in the lower hive. As to whether the colony will raise a queen in the second story when they have a perforated zinc, a good deal will depend on circumstances. The bees might and might not allow the virgin in the upper story to remain. A good deal depends on the strain and the time of the year.—ED.]

### The Danger of Sugar Syrup Going into the Supers.

A year ago last fall I fed 26 hives of bees (after I took the supers off) 200 lbs. of sugar, and the following spring I fed those same hives, before I put the supers back on them, 125 lbs. more of sugar, and at the time I put the supers on I had the brood-chambers full of bees and brood and sugar syrup. I believe the bees carried a good portion of that syrup up into the supers. Did I lay myself liable to prosecution for violation of the pure-food law? I sold my honey to the public.

Gardener, Va., Jan. 29. H. HURT.

[It is hardly likely that the bees would carry into the supers the syrup that you fed. The presumption is that it was all capped over before the honey-flow came on. A good portion of it will be used in brood-rearing. We see no reason, therefore, why you could not honestly sell your honey as pure honey. We would, however, avoid feeding just before the honey-flow, for then there would be quite a possibility that some of the uncapped syrup might be carried into the supers.—ED.]

### Bee-keeping in a Garret Very Simple.

I read, on page 113, Feb. 15, about a colony of bees kept in a garret for eleven years, and that never swarmed. Now, I should like to know if Mr. Stewart ever changes the frames in the brood-nest—that is, took out the old combs and put in new ones, and also if he requeened, and how often, or did he leave it to the bees to supersede her?

Vowinckel, Pa., April 4. D. P. TOOMEY.

[Mr. Stewart replies as follows:]

In answering the questions submitted I will mention some other things that may be desirable information to some persons desiring to make a start with a colony of bees in a garret.

The hive-stand should be on a level with the bottom of the window, and the window raised about an inch to afford the bees ingress and egress. The glass should be closely covered; and if there are other windows they should be shaded so that the bees see no light except that from the opening at the sill, which is an extension of their alighting-board.

When for any reason the hive is opened for manipulation it is well to open the window, when most of the bees that take wing will fly out. In the colony kept eleven years in a garret without swarming there was no change of frames or combs in the brood-nest, and it was but once requeened by the owner. The bees did the superseding, with the one exception, and in that instance the colony was queenless, and without eggs or larvæ—cause not known. In such a case the colony (without rescue) is doomed. Fortunately this does not often occur.

The main precaution, and practically the only

disturbance of the brood necessary, is twice a year to see that a queen is present (by her works), and that there are sufficient stores—namely, in the spring during fruit-bloom just before putting on supers; and, again, in autumn after the honey season, about Sept. 1, when taking off supers. If either or both are lacking, the only remedy is to requeen, to feed, or to do both.

Toledo, O., April 7. CHARLES STEWART.

[We expect to have shortly an article on this subject from another who has had a wide experience with this garret method of keeping bees.—ED.]

### Black Brood and the Sectional Hive.

I wish to thank you for your courteous reply to my criticism, p. 157, March 1, and also to call your attention to another editorial in your issue for June 1, 1909, in which you say, "If black brood should once get started in an apiary of ours we would treat the whole apiary, irrespective of whether individual colonies showed the disease or not." I regard this as sound doctrine, and we would certainly adopt this plan if foul brood of any kind were to break out in our apiary. From this point of view, by employing economic methods of treatment I can not see wherein the sectional hive would be a very bad proposition. Far be it from any desire of mine to cover up any of the weak points of the sectional hive, and it is easy so see that foul brood might get a pretty strong foothold in an apiary where the frames were seldom handled and the brood-chamber divisions interchanged freely.

It is my candid opinion that, if bee-keepers would keep only pure Italians, and see to it that they were liberally supplied with food at all times, there would be little trouble from foul brood or other diseases. The intermittent periods of semi-starvation to which bees are often subjected by careless bee-keepers saps the vital force of the bees and brood, and make them fall an easy prey to disease germs that are everywhere present. An ounce of prevention is worth a pound of cure, and judicious feeding is worth *many* pounds.

Birmingham, O. J. E. HAND.

### How to Use Unwired Foundation so it Will Not Stretch.

Last spring I inquired as to the feasibility of making increase in an upper story by the Alexander plan of using full sheets of foundation without wiring. I tried it with quite a number of colonies, and it was perfectly successful in every case, the editor to the contrary notwithstanding. The bees occupied the upper story gradually, drawing out the foundation as the queen needed it, making nearly perfect combs—that is, they were perfect except for the space that was not filled above the bottom-bar.

The queen seems to find things exactly to her liking, and just spreads herself over the new combs. The only difficulty is, if the honey-flow comes on early the bees are apt to put a lot of honey in the way of the queen.

The only foundation that was at all stretched was the frame that I sometimes put in the lower story in place of the frame that I take out with the queen on it to put in the upper story. E. L. BROWN.

Warren, Minn., Dec. 15.

[While one can get fairly good combs drawn out from foundation that is not wired, yet the facts remain that an unwired comb can never be handled as readily and as rapidly, either in or out of the hive, or in an extractor, as one that has been securely stayed; and, what is of considerable importance, even if horizontally wired, foundation will have less elongated or stretched cells near the top-bar.

A great deal has been written on the best weight of foundation to use. The old-fashioned, or medium brood (which, of course, is more expensive by reason of its extra weight), will usually make better combs than the light brood.—ED.]

### A Chicken that Ate Drones but Not Workers; a Remarkable Case.

One day last fall while working in my yard I noticed a chicken at the entrance of a hive, catching and eating bees. I watched him for some minutes. He would catch a bee going in or coming out, or jump up and catch one. I recited a few lines on the demerits of a fowl that would eat a man's bees, and chased him out of the yard. Soon I caught him at the same performances. I called my wife, and we decided to cut his head off, which we did. Upon examination of the chicken's crop we found it full of drones but not a single worker bee. After the observation I reproached myself severely for killing the goose that had laid for us the golden egg. But the unsolved problem with me is, how did the fowl know the difference between a bee that can sting and one that can not?

Hawthorne, Wis. LEWIS EFAW.

### No Inspector Provided for in Iowa.

I noticed with some amusement the remarks about the Iowa law appointing a bee-inspector. There was such a law passed, but no inspector was appointed. The legislature failed to provide funds to sustain the office, and probably no provision will ever be made. Any advice on the subject will be appreciated.

Anamosa, Ia., April 15. FRANK SNYDER.

[This only emphasizes the great importance of having all foul-brood bills, before they are placed before State legislatures, carefully reviewed by an expert. Dr. E. F. Phillips, of the Bureau of Entomology, Washington, D. C., has made this a special study, and is willing to furnish copies of model bills.

In this case it is possible the Iowa legislature amended the bill, practically spoiling it. This has been done before.—ED.]

### Will Bees Remove Honey-dew from Bait Sections?

In putting bait sections in supers from last year with honey-dew in them, and cutting the caps so the bees will remove it, will the bees put the honey-dew back in the sections again with new honey?

JOSEPH S. BOWMAN.

Harrisonburg, Va., April 16.

[The probabilities are that the bees would not remove the honey-dew from the bait sections unless the brood-nest were running short of stores. Any bait sections containing honey-dew should be consigned to the solar wax-extractor. It would be very risky to put them into a super, expecting the bees to remove it and put good honey in its stead. There is no probability that they would do it. When new honey came in they would store on top of it. Such sections would have to be sold for less price.—ED.]

### Can Old Bees Raise a Queen?

When I find a queenless swarm with a laying worker I give it a comb of hatching brood, and in a few days I put in another comb with eggs and hatching larvæ or a ripe queen-cell. The young bees soon dispose of the laying workers, and they will raise a queen if they have eggs or hatching larvæ. From that I conclude that only bees under a certain age are capable of raising a queen, and that old bees can not raise a queen.

Hully, Colo., Dec. 24. C. STIMSON.

[The plan you outline for disposing of fertile workers is standard and good; but you are wrong in supposing that only *young* bees can raise queens. The fact has been proven that old bees, when they *have* to, will assume the function of nurse bees or of raising a queen.—ED.]

### Honey Secured from the Field Pea only when no Other Source is Available.

On page 235, April 1, a correspondent wishes to know if bees gather honey from common field peas. I have anywhere from five to twenty acres of them every year, and my bees always get a good deal of nice honey from them. I know this to be true, as the peas bloom when there is a honey dearth, generally, and so the bees gather honey from them. However, I notice that they do not work on it much if there is a better honey-plant blooming at the same time. G. H. LATHAM, JR.

Rapidan, Va., April 4.

### Keeping the Bottoms of Hives and Brooders Dry.

Tell A. I. R. that I have discovered that a bunch of straw or hay two inches thick placed under Clough's lampless brooders, either outdoors or indoors, will keep the bottom dry. There will be no warping of the boards. This applies to hives as well in winter when standing low on the ground.

Aurora, Ill., Nov. 19, 1909. V. W. CLOUGH.

# Our Homes

By A. I. Root

To him that overcometh will I grant to sit with me in my throne, even as I also overcame and am set down with my Father in his throne.—Rev. 3:21.

I think I have before used this text about overcoming; in fact, in the fore part of Revelation there are many beautiful texts about this matter of overcoming our fleshly appetites and promptings. God has implanted in us a craving for food, and in his loving kindness he has made most wonderful provision for ministering to our hunger. Again and again I am astonished and surprised at the great profusion of beautiful foods that are just within our reach if we will only put forth our hand and make use of them. In our next issue I have something to say right along in this line about that beautiful new berry of which God has permitted me to get a glimpse and taste; but just now we will consider something else.

God has implanted within us at least two powerful cravings for something that will bless us and do us good if we remember that text about overcoming, but something that will do us terrible harm, and send us down to the bottomless pit if we do not exercise reason and common sense. One extreme would make raving maniacs of the whole human family; "overcoming" makes each one of us, every child of humanity, a temple of the Holy Ghost, a place where that Spirit might dwell and bless us and all humanity. I shall now have to ask permission to touch on something right here that is not often considered very much in print.

Man as well as animals has at least two powerful cravings, or we might say instincts, that God has implanted in us for the preservation, not only of these bodies of ours, but for the perpetuation of the whole human race. I am sure you will excuse me if I go back to chickens once more, for they are my intimate companions, and I see in them God's loving hand from the moment they get out of the shell until they get to full maturity. When a chicken is two or three days old it begins to show its craving for food, and it very soon expresses its thanks to the one who feeds it; and I am sure it shows a sort of affection and gratitude. You can teach this newly hatched chick, or fifty or a hundred of them all together, no end of cute little tricks because of their craving for food. In fact, almost the only way to teach and educate domestic animals is through their love for food. A lump of sugar now and then, or a nice apple, will make a horse remember you, and be glad to serve you in any way in his power. Do not forget to win in this way the confidence and love and good will of every domestic animal you meet day by day. It will pay you in dollars and cents.

Well, your only avenue or gateway to disarm the little chick of his fear, and enable you to teach him so you can call him or pick him up, is through this love for food. After the chick has had enough grain, say chick food, for instance, he will show a wonderful appetite for lettuce or other green stuff after he has smacked his lips over it a little and learned what it is. Then try a little flock, say a week old, with the crumbled yolk of an egg boiled hard, until they have learned what it is. They will have to examine it a little, and swallow some pieces before they understand what it is. But in just a few hours you can get them so crazy for egg that they will be chasing each other frantically all over the yard. Some chopped-up meat or ground bone will answer a good deal the same purpose to satisfy the craving or nature's call for something that will make muscle, bone, and feathers.

Well, now, these chicks show nothing but an appetite for food until they are five or six months old. Then the male portion of the flock will have to be separated from the pullets. They have arrived at the age when nature manifests a most powerful impulse and instinct besides the craving for food. When I got back from Florida, business was crowding to such an extent that my flock of poultry here in Medina had been neglected. They had food enough, but I found *eighteen* full-grown cockerels with about sixty of the other sex. Of course I made haste to put them in the cockerel yard, and clipped their wings so they could not get out, until I could dispose of them in various ways. Their inclosure permitted them to get a glimpse every day of the yard containing the laying stock, and it was interesting to me to study this wonderful instinct I have been speaking about. The eighteen cockerels would not fight or quarrel at all so long as none of the other sex were present.

We will now, if you choose, bid good-by to the fowls, at least for the present. Humanity has appetites in many respects much like those of the chickens. These appetites are gifts from God, and, under proper restraint in the line of "overcoming," they bless humanity and the whole human race; but if permitted to have full sway, without being controlled by reason and common sense, man becomes a raving maniac. Witness delirium tremens on the one hand, and on the other the insane and idiotic asylums, and this nameless crime that prompts men to risk being lynched, or, perhaps, being burned at the stake. When we see how many have been cut to pieces, strung up on a tree, or burned to death by a crazy mob, we wonder how anybody but a crazy man should be tempted to give way to such insane folly; and the crowd that puts them to death without judge or jury is almost as crazy and as much to blame as the poor victim, the colored man, who gives way to his insane passion.

Dear friends, what I have given in the above is only a preface to what seems to be going to prove a great and wonderful reve-

lation from God to the whole human race. May be I am a little extravagant; but you know how much I have said as to the awful waste that is going on here in the United States in the way of spending so much time and money to feed our people. That beautiful prayer says, "Give us this day our daily bread;" but the world is in such haste scrambling after new and good things they seem to have forgotten all about the "bread." Note the multitude of dishes that even yet load down our tables, and as a result employ an army of doctors, surgeons, and specialists of different kinds, besides another and greater army of trained nurses at $4.00 a day or more, besides the expense of asylums and hospitals for the sick and suffering. I have asked myself, "Is there a remedy, and will there be a turning-point?" Thank God, there *is* a remedy, and the turning-point has come. God has been sending us John the Baptists and other great teachers and forerunners. I told you about Terry's work in our issue for March 15; and I closed the article by what I still consider a wonderful message from Upton Sinclair. Terry, Fletcher, Sinclair, Dr. Kellogg, and hosts of others, are striving to wake the people up and make them understand and *comprehend* why people have aches and pains, sickness and death. With all the advantages your old friend A. I. Root has enjoyed (a near neighbor, comparatively, of T. B. Terry), not until he was *seventy years old* did he discover he could be happier and in far better health without a carefully gotten-up supper, or *any thing* but a few apples after the noonday meal.

Now, I have something more to tell you about this man Upton Sinclair. He is a young man, or comparatively so, and bids fair to be young (if he keeps on) for many years to come. If you have not all read his talk in the March 15th GLEANINGS, I wish you would get right at it and read it, and then after that, hunt up the *Cosmopolitan* magazine for May. If you have not one handy, send and get it. Read Upton Sinclair's article on "starving for health's sake." After you have read it, pass it round to the neighbors. Get as many folks to read it as possible. My first acquaintance with Sinclair was in reading "The Jungle," that book that exposed the *meat* condition of things in our nation—the book that caused President Roosevelt to send for the author and have a conference with him. Now, please do not understand that I thoroughly approve that book, "The Jungle." While I read it and was charmed by the author's wonderful descriptive powers, I was also pained because of some things that I thought should have been left out out. Another thing, I could see he was not a professing Christian, and I fear he is not now. Yet he quotes the Bible, and seems to understand what true Christianity is. May the Holy Spirit guide him, and open a way for him to make *still further* discoveries that will benefit the human family. Well, when you read that article in the *Cosmopolitan* you will discover that Sinclair has gone a little further than I have in dispensing with suppers. When his digestion would not stand the close confinement of writing books and articles for the magazines, he began to skip a whole day, then two days, and then three and four days, and, like Dr. Tanner (who, by the way, was a Medina Co. boy), he found out that people could live a dozen days or more, and not "starve to death" either. By the way, when Sinclair's health began to fail (perhaps through confinement and overwork) he went to Battle Creek, Mich., and there became acquainted with Fletcher and Dr. Kellogg. They three discussed for several days, or perhaps weeks, the food problem and the health problem for a nation of people. At this period in his life Sinclair wrote a book entitled "Good Health, and How We Won It."* It is a nice large book, well illustrated, and the price is only $1.20. If some of our experts in poultry, while giving some of their systems, would give us a book like this (almost 300 pages) for the price they charge, it would *look* a good deal better, if nothing more. Well, this man Sinclair has all his life seemed determined to put *bodily health* and *vigor* of both mind and body far above the gratification of *any* appetite. He says in the *Cosmopolitan*, "I have never in my life used tea or coffee, alcohol or tobacco." Oh that our great teachers (and great *doctors*, too), by the way, could stand up before the world and look their pupils full in the face, and say what Sinclair has said! After Sinclair had put on flesh, and got to be almost an athlete, like our neighbor Terry, he felt prompted to give a suffering and sinful world the benefit of his discoveries. He discovered that a man can grow fat by starving himself. You want to get that magazine and look at *pictures* of himself and wife, if you can not take time to read the whole article. I told you that going without my supper of nourishing food gave my digestive apparatus an opportunity to clean out, slick up, and mend things that were breaking down, etc. Well, Sinclair gives the human form divine a still better chance by going without food for several days. Of course he loses flesh; but in an incredibly short time he *gains* flesh again. Arter a fast of ten or twelve days he commences by drinking milk—a glassful every hour following this with more substantial food later on. He finally gained 32 lbs. in 24 days. After he had tested the matter again and again, and secured such marvelous strength and energy, his wife, who had been for years an invalid, was prompted to try it, although they feared she could not stand the ordeal; but now she too is a smiling picture of health. Look at the picture.

Like T. B. Terry, Sinclair has *nothing to sell*. He has no pay in any shape whatever, save what the magazines and his books bring him. He is beating a path through

*Frederic A. Stokes, publishers, New York.

the wilderness where all the world can follow if it chooses. He and his wife both say that, after the first day, they experienced but very little inconvenience from hunger; in fact, she walked four miles every morning with her husband for six days in succession.

Now, here something funny comes in. People lost at sea or out on the desert starve to death in a week or less. Perhaps it is because thay can not get good pure water. Sinclair drinks freely of pure water, all through his fast, but nothing else. At one time while in California, after having taken a fast of three days, and walking about fifteen miles the last day without any trouble whatever, he came home and read about the Messina earthquake. The papers said when food was brought to those suffering people they tore each other like wild beasts because they were crazed with hunger, for they had been *seventy-two hours* without food. Sinclair also had been without food for the same length of time, and just felt *good* and *happy*, even after he had walked fifteen miles. How can this be explained? It is very simple. Sinclair's fast was a deliberate and voluntary one; but the Italian people were ignorant, and probably frightened. They did not know any thing about self-control, and had never heard the beautiful text about overcoming. When God created man in his own image he intended man should be Godlike, and have the ability to *rule* and to *overcome*.

Some of you may be inclined to say right here, "Well, old friend A. I. Root, why don't *you* fast for a couple of weeks and tell us about it? Write up a Home paper, for instance, after you have been two weeks without food, and after you have walked several miles, say toward the last day." Well, dear friends, I have been considering it; but while I am feeling so well, what is the use of my fasting? If I have any more attacks of grip fever or chronic dysentery, I will most assuredly try to follow Sinclair. By the way, he says in that magazine that you had better try it where you can consult daily with some one who has had *experience* in the fast cure. He says the greatest danger is that one gets frightened because friends and relatives declare he is killing himself, etc. Ernest and Huber both protest against my making such an experiment, because of my age; but I feel sure that, if I should undertake such a task with the sole end in view of benefiting humanity, God's Holy Spirit would give me strength, both of mind and body; and God knows that the lesson that is needed just now is one of "overcoming" the promptings of appetite, especially remembering we have it in the words of holy writ, that these bodies of ours are intended to be "temples of the Holy Ghost," and that God did not send us into this world solely to have a "good time" in eating and drinking, and ministering to our lower and baser passions.

May the great Father lead us and guide us; and may he bless Sinclair, Terry, and Fletcher in their efforts to show us how to attain physical perfection, and how to develop into that *glorious manhood* that the Creator had in mind when he placed us here in this beautiful world of ours.

Ernest declares I must not close this article without quoting a tribute that Sinclair pays to our old friend Dr. Salisbury. Our older readers may remember that our journal has had more or less to say about the Salisbury treatment for the past twenty-five years. Here is what Sinclair has to say in regard to it in the article in the *Cosmopolitan:*

For several months after this experience I lived upon a diet of raw foods exclusively—mainly nuts and fruits. I had been led to regard this as the natural diet for human beings; and I found that so long as I was leading an active life, the results were most satisfactory. But when I came to settle down to a long period of hard and continuous writing I found that I had not sufficient bodily energy to digest these raw foods. I resorted to fasting and milk alternately—and that is well enough for a time, but it proves a nervous strain in the end. Recently a friend called my attention to the late Dr. Salisbury's book, "The Relation of Alimentation to Disease." Dr. Salisbury recommends a diet of broiled beef and hot water as the solution of most of the problems of the human body; and it may be believed that I, who had been a rigid and enthusiastic vegetarian for several years, found this a startling idea. However, I set out to try the Salisbury system. I am sorry to say that it seems to be a good one; sorry, because the vegetarian way of life is so obviously the cleaner and more humane and more convenient. But it seems to me that I am able to do more work and harder work with my mind while eating beefsteaks than under any other règime; and while this continues to be the case, there will be one less vegetarian in the world.

## *Poultry Department*

By A. I. Root

### KEEPING CHICKENS IN FLORIDA, AND SOME OTHER THINGS.

I give the following letter entire because it is a sample of the many kind words that come for my department almost continually. If kind words give inspiration as well as zeal, I certainly ought to have plenty of both.

*Dear Mr. Root:*—I take the liberty of writing to you and calling you "dear friend," as it seems to me as if I had known you nearly all my life through reading your articles in GLEANINGS, of which I have been a subscriber, off and on, for over thirty years. I think your writings have done more for me in the line of trying to live a Christian life than any other one thing—that is, through reading Our Homes. Long live GLEANINGS and the editor of the Homes department.

I wish to ask you a few questions. What is the average price of eggs and of different kinds of grain for feeding, as well as the price of land suitable for raising chickens in your part of Florida? also the price of lumber for building poultry-houses? I am 44 years of age, without a family, and one of the biggest chicken cranks in the country. I have some means, and should like to go to Florida and engage in the chicken business. Your poultry department I read with great interest, and have derived many good points therefrom. I am no stranger to the poultry business, as I have kept as many as 400 at a time.

I have just read T. B. Terry's book on how to keep well, and intend to practice some of his precepts.

Binghamton, N. Y., April 26. H. S. THOMPSON.

When I reached my Florida home last November the grocers were paying 40 cents

a dozen for eggs. As they claimed that this price was exactly what they sold them for, we were expected to take our pay in goods; but as they sold all kinds of grain and chicken feed this was easily managed while we had only about 75 laying hens. The prices of the grain in 100-lb. sacks were as follows: Corn, $1.70; wheat, $2.30; and a mixture of broken corn, wheat, and other grains, called "corno," was $2.40 per 100 lbs. We found it rather cheaper to buy the corn and wheat; but as the corno gave a variety which the poultry seemed to enjoy, we fed it more or less with other grain. Oats cost $1.65, and we used quite a quantity of them for sprouting, especially when we were not able to get lettuce refuse of Bro. Rood. Sprouted oats were furnished by soaking a pailful of oats over night, and raking them into the ground next morning. We endeavored to put in a sufficient quantity, so there were always more or less sprouted oats in all the five different yards. The two acres of land where we keep our chickens cost $150 per acre; but we are only one mile from the grocery where we bought our supplies. Further away, one could get land at almost any price, say from five to ten dollars per acre and up. A good many make a mistake, however, by not counting the cost of getting to the depot and market through the Florida sand. A great deal of the ground around Bradentown is covered with different kinds of wild grasses, so that it makes a very fair road without very much expense for cleaning off the brush, etc. But where there is a heavy traffic, such as occurs in hauling a big crop of celery to market, the sandy soil soon cuts up so it is sometimes quite a job for a horse to draw even an empty wagon through these sandy places. Notwithstanding the fact of being at a distance from market, I do think that Florida offers wonderful opportunities for the poultry business. Before I forget it, however, I must not fail to mention that eggs went down to 30 cts. not long after the holidays, and then for quite a while they were 25; and when I left Florida the last of April the price was down to 20 cents; but the price seldom goes lower than that.

I have before explained quite fully, I think, that very little outlay is required for buildings of any sort. In fact, the grown-up fowls will roost in the trees, and get along very well without a building of any kind. There are two drawbacks, however, where they are up in the trees: You can not catch them when wanted; and owls and other animals are liable to molest them.

In regard to lumber for building poultry-houses, etc., we get plenty of cull flooring for only $12.00 per 1000, and our five houses were made almost entirely of this stuff. A very little cheap 2x7 for sills is all that is necessary. The cull flooring and the 2x4 will make such a building as I have pictured and described on page 165.

In conclusion, let me say again that it is beyond my comprehension why more people do not go into poultry, and succeed, down in sunny Florida. Cockerels that were hatched out in December weighed 2 lbs. each in April, and sold readily for 25 cts. per lb. at the same grocery where I sold my eggs. Fifty cents apiece for chickens four months old is what I call pretty good business. So far as I can learn, there is not a person in Florida offering baby chicks for sale. The pastor of the Methodist Church came down one day, and, after looking over my chicken-ranch, he was so much taken up with it that he at once sent away to *Attica, Ohio*, for 100 baby chicks. He said they offered them for $8.00 per hundred, safe delivery guaranteed clear to Bradentown. Just think of it! people in a land of almost perpetual sunshine sending up to stormy and wintry Ohio for chicks, and then paying express charges for a distance of toward two thousand miles! It reminds me of the time Eugene Davis told me he had orders for Grand Rapids lettuce, grown in midwinter in Michigan, to be shipped to *New Orleans*, where lettuce can usually be grown in the open air the year round.

Perhaps I should mention one of the objections to the chicken business in Florida; and this is, the stick-tight fleas and other insect pests. Well, although these stick-tight fleas did bother both *us* and the chickens, a year ago last winter, during the winter just past there was hardly a flea visible. Perhaps one reason is that we had plenty of rain all winter, and this is generally death to those insects. Another is that I kept the buildings, and especially the roosting-poles, pretty well saturated with Lee's lice-killer, put on about once a month with a spray-pump. I examined my chickens carefully, both old and young, almost every day, all winter, and I found scarcely a trace of lice or fleas. Besides the spraying we put strong tobacco dust in all the nests. Our 75 laying hens paid the grocery bills for myself and wife, and paid for all the grain for not only the 75 adult fowls, but the entire feed for over 200 chickens.

Of course, I have made no estimate in the above of the time spent with the chickens; but I have kept them just for the fun of it, and not to make money. It gave me healthy outdoor exercise, and paid all the expenses for Mrs. Root and myself; and what more can old people like myself want, any way? Of course, we had plenty of eggs; and (take notice) we had them, even if they *were* 40 cents a dozen. That made very little difference to us.

BUTTERCUPS UP TO DATE, MAY 6.

My three pullets commenced laying about April 1st, when they were about six months old; and were it not for the fact that one of them persists in laying a good many eggs without a shell, the record of the three would be rather ahead of any of my records with White Leghorns. My brother, who is still in Florida, reports two eggs every day, almost without exception, and quite often three, not counting the shelless ones. I presume this peculiar trouble with the one pullet can be remedied. We are going to do our best at it.

## *High-pressure Gardening*

By A. I. Root

ANOTHER OF MY "HAPPY SURPRISES;" THE NORTHEY BLACKBERRY.

Just once in my life I was called on to take the place of a lecturer belonging to a lecture bureau. My talk was on "happy surprises." I said I had been meeting all my life long with happy surprises, and I expected to find them, even down to old age, or as long as God permits me to live. I said, furthermore, that every follower of the Lord Jesus Christ had a right to expect once in a while a "happy surprise." It was years ago that I gave that talk, and I have thought of it a good deal since. If you wish to enjoy having happy surprises, you must not expect too much. You must not expect too much of poor, infirm, imperfect humanity. You must not expect too much of new localities—Florida, for instance. You must not expect too much when you venture into agriculture, fruit-growing, and raising chickens, for instance. Make up your mind to be satisfied with *small* rewards; and when a big reward does come you will have your happy surprise. You must not expect too much of *yourself*. Do not get the big head. When you get up in the morning and plan what you are going to exploit during the day, do not make your calculations too high. Something is always going to happen that you do not plan for. Remember the words of the dear Master when he said, "Let him that would be greatest among you be your servant." Start out for a lowly place and for lowly things in this world; then when you are called on to "step up higher" you will not only appreciate it, but you will be better fitted to fill the station right.

After this long preamble I wish to tell you something that was indeed a very happy surprise. My neighbor Ten Broek is, like myself, an elderly man, and on account of old age, principally, he is not taking the care of his five acres of land over the fence from my own that he took in former years. At different times he has planted different kinds of tropical fruits on his premises; but as he does not raise stuff to sell, or to only a very limited extent, so long as he has plenty for his own use and to give to his neighbors when they call on him he does not care much about getting great crops. To come right down to it, his place is mostly overgrown with brambles and weeds; and I suppose if he likes to have it that way his neighbors should not object.

Well, I noticed several times along about the middle of April some very large blackberries or dewberries, perhaps you would call them, as it is a trailing bush, scattered in different places over his premises. One day I happened to turn aside from the path not very far from his front door, and I discovered something that made me raise both hands and say, "Praise God, from whom all blessings flow." I thought at first that it was this same trailing blackberry; but from the few that were just getting ripe I decided it was something else, for they were red instead of being black when fully ripe—a most beautiful glittering deep vermilion red. And that was not all. When I came to test one that was fully ripe and mellow I said it was certainly the most delicious fruit of any sort that ever passed my lips. Now, that is not all. This new plant or berry, for it certainly was new to me, covered a space perhaps as large as a good-sized dining-table. It was rounded up in the center perhaps two feet high—a beautiful oval mound, and this oval mound was, a few days later, a perfect mass of the most gorgeous and beautiful fruit I ever saw on any fruit-bearing plant. Now, that is saying a good deal, friends, for I have seen choice specimens of fruit-bearing trees and bushes pretty nearly over all the United States. When I came away from our Florida home, April 19, the great mound of berries was glittering and sparkling with the gorgeous fruit *all over* that mound; and, as if to set it off with a border, little plants had started out like the rays of a star in all directions; and these little plants were *also* glittering with beautiful fruit. Mr. Ten Broek did not seem to think very much about it, for he was accustomed to such sights. I called the neighbors in, right and left, and made myself at home in his berry-patch until I began to fear he might feel I was trespassing; but my good friend Ten Broek (and he has been my friend for many a long year, for he took GLEANINGS before he ever saw me), when I began to apologize for taking so much liberty, said to me and the friends I had brought along with me, "You need not be troubled, neighbors. My good friend Root has full permission to help himself to *every thing*, and do *any thing* he chooses to on my premises." At this there was a big laugh. But I took advantage of the invitation, and *did* help myself to those wonderful berries. Oh, dear me! if John Lewis Childs should see what I have written above, and go down there and see *that* "wonderberry," what would he not do with it? Well, I started to tell you that, for fear this berry might be poison, like the nightshade, and do harm to humanity, I thought I would give it a good test, and so I ate and *ate* of these ruby blackberries until I certainly would have been injured if they would injure anybody. But they just made me feel good and happy.

When I asked neighbor Ten Broek what kind of cultivation he gave them he said he never gave them *any* cultivation at all. He bought one plant at Reasoner Brothers' nursery, Oneco, Fla., four years ago, and it bore some fruit right away; more the next year, more the year after, and so on until the present season. *He gave it no cultivation whatever.* It just spread out, took root, and managed every thing after its own sweet will. After I learned where he got the plants I told Mr. Reasoner he had better come and

take a look at it. He did not come, but sent me the following:

*Dear Mr. Root:*—Your letter of the 13th is at hand. I am delighted to know that Mr. Ten Broek has made such a success with the Northey berry. The only enemy it has seems to be the thrips. These are driven off by free use of tobacco, which should be used either in powdered form or in liquid extract form just as they begin to bloom. We have a fair stock, and can supply a good many for next winter. The pot-grown plants, of which we have quite a number, may be set *any time*. I shall be pleased to give you some plants. Just say how many you want. E. N. REASONER.

Oneco, Fla., April 14.

Of course I got neighbor Rood to go over and look at it. He agreed with me in regard to this wonderful tropical fruit, and I believe he also agreed that it was the most delicious berry he ever tasted.

Now, if I should drop this account right here, would it not be a magnificent advertisement for the Northey blackberry? I found by inquiry that the berry had been known for some years. It very much resembles what our California friends call the Logan berry. I ate quite largely of them some four or five years ago when on the Pacific coast; but, so far as I can recall, this Northey berry has a most exquisite and peculiar flavor that the Logan berry did not have. After the originator of the fruit died, the plant was neglected for some years. Then Mr. Reasoner got hold of it and put it in his catalog, and has sold plants to a considerable extent. My neighbor, Mr. Rood, put out quite a little plantation a year ago or more; but for some reason they did not thrive on his land like the one big plant I have mentioned. Mr. Rood cautioned me a little about making an extravagant write-up. He said, so far as I can remember, something like this:

"Neighbor T. used to have a garden right here where that plant stands, and I think he had gotten the ground up to a pretty good degree of fertility. Another thing, the ground seems to be a little springy on that spot. Right near the plant is an old well, and the water stands within two or three feet of the top of the ground almost the year round. That spot seems to enjoy a sort of natural sub-irrigation."

Just one thing more: Over almost all the State of Florida, the weeds and the commons get burned over almost every year or oftener. Some claim it is better for cow pasturage. Well, Mr. Ten Broek has never permitted his ground to be burned off or pastured off. The luxuriant tropical growth has been coming up and dying down or rotting down every year for fifteen or sixteen years with little or nothing taken away. The consequence is, it has become covered with a lot of humus and vegetable growth, making it in good condition to grow almost any thing. That is why these berries are so much ahead of mine.

You will notice, from Mr. Reasoner's remarks above, that he speaks of thrips; and I think it is those same thrips that hinder Mr. Rood's Northey berry from bearing. There are no thrips nor signs of them on Mr. Ten Broek's premises. I can not tell why unless it is because of the exceedingly strong thrifty growth.

Mr. Ten Broek has no plants for sale. When I spoke about writing it up he said I should say to you all that he did not want to be bothered with correspondence on the subject. Mr. Reasoner, however, will probably be able to give you plants enough to test it in most localities. I have quite a lot set out near my Florida home, and am going to give it a trial here in Ohio. Perhaps it might save you trouble by saying that Mr. Reasoner's catalog price for potted plants is 25 cts. each.

I have given this Northey berry a write-up because I feel it is going to be a blessing to humanity. One such mound of berries as I have described ought to be worth ten dollars to a family where there are several children. Yes, there is one other difficulty. It is not a "thornless blackberry," as you will soon discover if you get it to grow on your premises. But you know there is scarcely "a rose"—that is, a real nice one—"without a thorn."

## SELLING SECRETS, ETC.

The following, from Prof. A. A. Brigham, of the College of Agriculture of South Dakota, explains itself:

*Mr. A. I. Root:*—Confirming your criticism in GLEANINGS, page 276, concerning a cheap and sure ($1.00) method of exterminating lice and mites, let me refer you to page 139 of "Progressive Poultry Culture" for the hydrocyanic-acid-gas treatment, and to the previous page for brimstone fumigation, these methods being given, not as "secrets," but as plans in use. The book (of which you have a copy) has been published nearly three years. These methods were published often before that. If needed I can tell of experiences of mine where the hydrocyanic treatment proved *expensive* and *unsatisfactory*, while the old-fashioned "hell-fire" proved *economical* and *effective* in destroying the pestiferous parasites. The former case was that of a brooder-house 40 feet long that had stood empty for over a year, and yet was swarming with mites. I will not burden you with the recital, however, unless you wish it.

I desire to thank you for your earnest exposure of so many frauds and fallacies of the present day.

Brookings, S. D., April 27. A. A. BRIGHAM.

In view of the above, does it not seem as if the Postoffice Department at Washington should refuse to deliver mail to men or women who deliberately go into this kind of graft—charging a dollar for a simple process that they have copied from some printed book or journal?

In turning to the page mentioned above, I found the process given in detail. Thanks to Prof. Brigham for having called our attention to it. I should like to have him tell us all about banishing the pests from that forty-foot brooder-house.

## KIND WORDS FOR THE HOME DEPARTMENT.

I have been reading a few numbers of GLEANINGS with profit on general subjects; but if you could know the great help which I have received from Our Homes it would cheer your heart and fully repay you for all that you have given in that department. Let the good work continue.

Cushman, Mass. ASA V. SNOW, M. D.